Environment Act Proposal Vita Health, 150 Beghin Avenue, Winnipeg, Manitoba

FINAL REPORT

Prepared for:
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Prepared by:
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June 24, 2019

Sign-off Sheet

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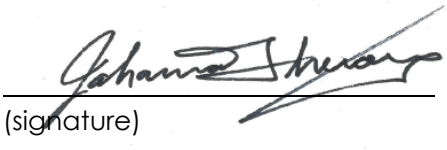
Prepared by 
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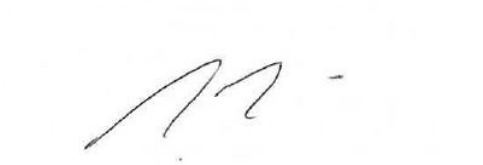
Reviewed by 
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Karen Mathers M.Sc., P.Geo. FGC, PMP

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Manitoba
Sustainable Development

Name of the development:
Vita Health Pharmaceutical Facility

Type of development per Classes of Development Regulation (Manitoba Regulation 164/88):
Manufacturing and Industrial plants

Legal name of the applicant:
Vita Health Products Inc.

Mailing address of the applicant: 150 Beghin Avenue

Contact Person: Josee Nazarkiewicz, Safety and Training Coordinator

City: Winnipeg Province: Manitoba Postal Code: R2J 3W2

Phone Number: (204) 661-8386 Fax: email: jnazarki@vitahealth.ca

Location of the development: St. Boniface Industrial Park, Winnipeg, Manitoba

Contact Person: Josee Nazarkiewicz, Safety and Training Coordinator

Street Address: 150 Beghin Avenue

Legal Description: Lots 1/2 Plan 16587, Pcl A/D Plan 29058, Pcl A Plan 38342 RCMP

City/Town: Winnipeg Province: Manitoba Postal Code: R2J 3W2

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Printed name: Josee Nazarkiewicz

PRINT

RESET

Executive Summary

Vita Health Products Inc., owned by Nature's Bounty Co. operates a pharmaceutical manufacturing facility in the St. Boniface Industrial Park, located in Winnipeg, Manitoba. Manufacturing and Industrial facilities in Manitoba are required to have a Class 2 development licence under *The Environment Act*. The findings of a recent internal audit revealed that the facility does not have a current Environment Act Licence to operate in Manitoba. Accordingly, Vita Health submits this Environment Act Proposal (EAP) as an application to obtain an Environment Act Licence for the ongoing operation of the current facility.

The existing facility is located at 150 Beghin Avenue in Winnipeg on property owned by Vita Health Products Inc. (the Project site). The facility has been in operation at this location since 1983. The Project site is located on property zoned "M2 – Manufacturing General" under the City of Winnipeg Zoning By-law No. 200/06.

This Environment Act Proposal (EAP) has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of Vita Health Products Inc. The following is a summary of the existing environmental attributes of the Project area, which are pertinent to the environmental assessment conducted:

- The Project site is located within the City of Winnipeg in an existing industrial park currently developed and zoned for that purpose. The facility has been in operation at its present location since 1983.
- A desktop examination by Stantec did not identify any species at risk or heritage resources previously recorded in the proximity to the Project site.
- Full-time truck routes pursuant to City of Winnipeg Traffic By-law No. 1573/77 provide access to Beghin Avenue and the Project site from the north via Dugald Road and from the south via Camiel Sys Street (City of Winnipeg 2017).

Positive socio-economic effects associated with the Project include direct and indirect economic benefits of the facility operations. These benefits include wages paid to employees, the purchase of goods and services for operational activities, and contributions to municipal, provincial and federal tax revenue.

Potential adverse effects of Project operation are primarily related to the following:

- Operational noise generated at the Project site from facility operations, general delivery/vehicle traffic, and the dust collection system on the west side of the building (comparable to the noise of traffic and operations in the surrounding industrial park)

- The Project site's greenhouse gas emissions from building heat/laboratory Bunsen burners (natural gas combustion) and on-site vehicle traffic to and from the off-site warehouse at 310 De Baets Street (diesel combustion) (negligible in comparison to total provincial greenhouse gas emissions).

- Traffic generated by facility operations from employees accessing the site and the delivery of materials to the off-site warehouse at 310 De Baets Street (accommodated within the capacity of the existing level of service of the existing transportation network).

- Hazardous waste generated by manufacturing operations such as waste alcohol, oil, denatured pharmaceuticals, and ink are collected by a licensed hazardous waste processor (Miller Environmental).

- External air emissions generated by the facility operations from the combustion of natural gas for building heat, laboratory Bunsen burners, intermittent outdoor maintenance (snow blower), and from diesel fuel from the Vita Health delivery vehicle (negligible and managed by regular maintenance, repair, and replacement of equipment including fume hoods and air filters for dust collection).

The Proponent has committed to, and initiated, the following mitigation and prevention measures to reduce the effects to the environment during Project operation:

- Electric forklifts are utilized within the facility to reduce air emissions and subsequent indoor air quality effects. Used batteries are collected by a licensed service provider (Industrial Truck Service Ltd.) for proper recycling and disposal.

- The Project site is regularly inspected by Vita Health personnel to clean up loose debris and waste.

- Recyclables consisting of paper, cardboard, and plastics are collected for recycling once a month and scrap metal is collected on an as-needed basis.

- Product (pharmaceutical and nutraceutical) destructions are sent to Stericycle on an as-needed basis. Denatured pharmaceuticals are sent to Miller Environmental as hazardous waste.

- Hazardous materials are secured in two designated storage areas and handled, labelled and transported in accordance with applicable regulatory requirements. Products are picked up by a licensed hazardous waste processor (Miller Environmental) every two weeks.

- There are 9 absorbent material spill kits are available at various locations throughout the plant for immediate cleanup of spills and leaks by trained personnel.

- Fire extinguishers are available on-site for plant operations and are maintained according to manufacturer's standards. The plant also maintains a fire suppression system (sprinklers).

Equipment is checked on a routine basis to confirm their proper working order in accordance with municipal fire safety regulations.

- A Safety Program is in place at the site and includes policies related to hearing conservation, fire safety, hazard identification, control and reporting, Personal Protective Equipment (PPE), injury reporting and investigation, first aid, emergency response, inspections, and harassment and violence prevention.

On the basis of the desktop studies undertaken, site observations, and information available to date as summarized in this report, the Project is not expected to create significant adverse effects to the biophysical and socio-economic environment and is expected to yield continued economic benefits. The likelihood of fire/explosion, spills and transportation accidents occurring at the Project site is limited given the implementation of prevention measures identified in the Safety Program, and the currently implemented standard operating procedures.

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

Vita Health Products Inc. operates a pharmaceutical manufacturing facility in the St. Boniface Industrial Park, located in Winnipeg, Manitoba (Appendix A, Figure 1; Appendix B, Photo B-1). Manufacturing and Industrial facilities in Manitoba require licences as Class 2 developments under *The Environment Act* Classes of Development Regulation (MR 164/88). The findings of a recent internal audit revealed that the facility did not hold a current Environment Act Licence to operate in Manitoba. Accordingly, Vita Health submits this Environment Act Proposal (EAP) as an application to obtain an Environment Act Licence for the facility.

This EAP has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of Vita Health Products Inc. in accordance with Manitoba Sustainable Development's (MSD's) Information Bulletin, "*Environment Act Proposal Report Guidelines*". This report documents the existing facility's operations, potential environmental effects and implemented mitigation measures associated with the facility operations. The EAP report is submitted as supporting information along with the Environment Act Proposal Form for licensing consideration by MSD for ongoing site operation.

1.2 THE PROPONENT

For the purposes of development licensing, the proponent is Vita Health Products Inc. (hereinafter "Vita Health").

For further information regarding Vita Health operations, please contact the following:

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1.3 LAND OWNERSHIP AND PROPERTY RIGHTS

The subject Project site includes the manufacturing facility and attached offices, located at 150 Beghin Avenue, in the St. Boniface Industrial Park in the City of Winnipeg, Manitoba. The legal plan for the subject property is described as:

> *Lots 1 and 2, Plan 16587, WLTO, Parcels A to D, Plan 29058 WLTO, and Parcel A, Plan 38342 WLTO in Lots 197 and 200, Roman Catholic Mission Property* (Appendix A, Figure 2).

Copies of the current Land Titles (#1603779/1, #1603780/1, #1718961/1) for the subject property are included in Appendix C. Vita Health has owned the property since 1983. The total property is approximately 3.1 ha and includes a building of approximately 17,187 m^2, with approximately 13,309 m^2 used as a production area (see Appendix A, Figure 3). The remaining site includes outdoor spaces (parking areas, shipping, receiving) and landscaped areas on the north and west sides of the site. According to the Mineral Resources Branch (2019), there are no mineral dispositions for the subject property. Ownership of the mineral rights beneath the land is expected to rest with the Crown (Province of Manitoba).

1.4 PREVIOUS ACTIVITIES/STUDIES

The Project site has been used for the manufacturing, packaging, warehousing, and distribution of over the counter (OTC) pharmaceuticals and natural health products since 1983 and has undergone 3 expansions since that time to get to its current configuration. The distribution operations were moved off-site in 2010 to a leased warehouse located at 310 De Baets Street in Winnipeg. Previous environmental studies conducted at the Project site include 2 Phase 1 Environmental Site Assessments (1999 and 2017) as well as a recent Environmental Compliance Assessment (2018).

1.5 FUNDING

Vita Health is providing all funding for necessary undertakings related to the Environment Act Licensing.

2.0 REGULATORY AND POLICY SETTING

The following is an overview of the regulatory and policy setting pertinent to the operation of the Vita Health facility and the statutes and regulations considered in this assessment.

2.1 FEDERAL APPROVALS

The existing manufacturing facility is not considered a designated project pursuant to the *Regulations Designating Physical Activities SOR/2012-147* under the *Canadian Environmental Assessment Act*, 2012, and as such, no federal environmental assessment is required.

Health Canada regulates the use of narcotics as a controlled substance under the *Controlled Drugs and Substances Act* and the Narcotic Control Regulations. Health Canada administers legislation and activities related to controlled drugs and substances through the Office of Controlled Substances. Vita Health holds a Controlled Drug and Substances Licence and a Class A Precursor Licence for its operations as it conducts activities involving the manufacturing, packaging, labelling, importing, and distribution, of narcotic substances and Class A precursors (Appendix D). Vita Health must also adhere to the physical security requirements of the Directive on Physical Security Requirements for Controlled Substances as part of holding a valid licence (Government of Canada 2018) which is in place at the facility.

Health Canada also regulates establishments which manufacture, package, label, import, and distribute pharmaceutical products and nutraceutical products under the *Food and Drugs Act* and Regulations (Division 1A) and under the Natural Health Products Regulations. Vita Health holds a Drug Establishment Licence and a Site Licence for its building at 150 Beghin Avenue (Appendix D). These federal licences also cover Vita Health's associated foreign building annexes and their off-site warehouse at 310 De Baets Street, which are not included as part of the assessment for the purposes of this EAP.

2.2 PROVINCIAL APPROVALS

The Environment Act, C.C.S.M. c. E125 provides for the environmental assessment of projects, or "developments" that are likely to have significant effects on the environment. Industrial manufacturing operations are defined under the *Classes of Development Regulation (MR 164/88)* as a "Class 2 Development" as described in Section 11 of *The Environment Act* (Manitoba). The Vita Health facility located at 150 Beghin Avenue therefore requires the submission of an EAP for a valid and subsisting Environment Act Licence from MSD for its operations. For the purposes of this EAP, the development includes the continuing operation of the existing Vita Health manufacturing facility located at 150 Beghin Avenue and does not include associated foreign building annexes or the local warehouse (310 De Baets Street).

2.3 MUNICIPAL APPROVALS AND PERMITS

2.3.1 Municipal Sewer System

The facility discharges wastewater to the City of Winnipeg's municipal sewer system that conveys wastewater to the Winnipeg North End Water Pollution Control Center for treatment and discharge in accordance with City of Winnipeg Bylaw 92/2010.

Vita Health must comply with all clauses of The City of Winnipeg Sewer By-law No. 92/2010. Part 7 Discharges of Wastewater in the by-law restricts discharges of "substances with concentrations that exceed the limits set out in Schedule B" of the by-law to the wastewater sewer system. The by-law allows for the generator's discharges to exceed concentrations for substances outlined in Schedule B with receipt of an Overstrength Discharge Permit from the City of Winnipeg. The Overstrength Discharge Permit may provide limits or conditions for specific substances associated with the generator's facility.

Vita Health has a City of Winnipeg Overstrength Discharge Permit (#VITA-2016) for the 2016-2020 operating period with an expiry date of December 31, 2020 (Appendix E). The licence allows Vita Health to discharge wastewater with elevated levels of Total Suspended Solids (TSS), Nitrogen (N), Phosphorus (P), and Biological Oxygen Demand (BOD) into the sewer at 150 Beghin Avenue.

2.4 PUBLIC ENGAGEMENT

The Project site is located on one privately-owned parcel of land within an existing industrial park, operating as Vita Health since 1983. There have been no known complaints received to date about the operation (Nazarkiewicz pers. comm. 2019).

The Proponent recognizes and understands that this EAP may be posted on the MSD public registry for government and public review and comment as part of the licensing process. No additional public engagement activities are proposed or have been undertaken.

3.0 PROJECT DESCRIPTION

3.1 OVERVIEW

Vita Health has been in operation since 1983 at the Project site in the St. Boniface Industrial Park in Winnipeg, Manitoba. The subject land is zoned "M2 – General Manufacturing" under the City of Winnipeg Zoning By-law No. 200/06. The total property size is approximately 31,000 m^2, including a building of approximately 17,187 m^2 comprising approximately 13,309 m^2 of manufacturing/warehouse area, with the remainder of the building used as office space. The remaining areas consist of outdoor spaces (parking, shipping, receiving and landscaped areas)(Appendix A, Figure 3).

The activities conducted at the Project site include the manufacturing, packaging, storage, testing, and distribution of natural health products and over the counter pharmaceutical drug products including products containing narcotics (codeine phosphate) and Class A precursors (pseudoephedrine hydrochloride). Employment at the facility includes approximately 580 employees over 3 8-hour shifts. Approximately 230 employees work in the office and laboratory areas and approximately 350 work in the production area of the facility.

The production area of the facility includes a receiving dock, storage warehouse spaces including a narcotics vault, manufacturing rooms for weighing, compounding, compressing, and coating tablets, equipment cleaning rooms, a packaging area including cartoning and boxing lines, a maintenance shop, and a testing laboratory. Shipping, receiving, and facility maintenance spaces are also located in the production area.

The following section provides a description of the existing operations at the Project site.

3.2 EXISTING DEVELOPMENT

The existing facility consists of the main offices and attached production area. Shipping is located on the west side of the building, receiving is located on the east side of the building, and parking areas are located outdoors on the south, east, and west sides. The building is generally of steel frame construction with sheet metal and hard-surface cladding (Appendix B, Photo B-2). Access to the Project site is provided via Beghin Avenue and Paquin Road. Photos illustrating the existing site and operations are included in Appendix B. The main activity areas, as shown on Appendix A, Figure 3, are described further below:

3.2.1 Office Area:

The facility's office area includes approximately 60 spaces comprising a lobby, reception, offices, and meeting rooms (see Appendix F for complete layout and room dimensions).

- The reception is located on the southwestern portion of the office area.

- A staff lunchroom is located between the office areas and the shipping area (see Appendix A, Figure 3).

3.2.2 Production:

The production areas of the facility include warehouse areas for product storage (including walk-in cooler, stability chamber, and narcotics vault), manufacturing, packaging, quarantine, shipping and receiving areas. There is also a second floor mezzanine that includes product and equipment storage, a sample testing laboratory (including file/sample storage), and boiler room, including dust collectors.

3.2.2.1 **Warehouse, Shipping, and Receiving**

The facility has three warehouse areas for product storage where materials are housed and quarantined while being tested for contamination, prior to being released to manufacturing or packaging.

- The warehouse areas consist of metal racks of pharmaceutical and nutraceutical products, primarily in solid powder form, which are received in plastic or fiber drums and stored during the quality control testing prior to being released for use in manufacturing or packaging.

- Packaging materials such as labels, plastic and glass bottles, cardboard boxes and plastic bags are also stored and are tested for mold/yeasts before being released for packaging use.

- The warehouse area contains a metal caged narcotics vault for the storage of controlled substances, and a manufacturing release area, where products are stored in quarantine pending laboratory approval. This area contains a walk-in cooler and stability chamber for materials requiring refrigeration.

- Hazardous materials such as alcohol, cleaners, paints, hydraulic oils, and ink are stored in yellow flammable materials storage cabinets located throughout the warehouse area. A total of 15 flammable materials cabinets (approximately 45 U.S gallon capacity each) are located on-site, including the warehouse floor, manufacturing area, and laboratory (Appendix B, Photo B-3).

- Solid and liquid hazardous waste, denatured pharmaceuticals, along with associated containers, are stored in a satellite hazardous waste storage area, located in a designated room on the second floor adjacent to the laboratory, as well as in a designated hazardous waste storage room in the shipping area where it is temporarily stored prior to collection by Miller Environmental (Appendix B, Photo B-4). The hazardous waste storage room is locked, with a bermed area and metal flooring. Collection occurs every 2 weeks. Estimated hazardous waste generation is described further in Section 3.3.4.

- Dry-chemical type Class 3 fire extinguishers are located throughout the facility (Appendix B, Photo B-5). The building also has a fire suppression system (sprinklers). There are no backup generators located on-site.

- Spill kits (9 total) are located throughout the building (Appendix B, Photo B-5).

- A cardboard baler is located in the warehouse storage area (Appendix B, Photo B-6). Cardboard and paper waste are collected by Phoenix Recycling Inc. for shredding.

- Electrical panels are located on the north, south, and east sides of the building (Appendix B, Photo B-7).

- The shipping and receiving areas consist of loading docks, overhead doors, and temporary storage areas for materials. Receiving occurs at the east side of the building. The receiving area also houses 2 electric forklift charging stations for the 12 electric forklifts on site (Appendix B, Photo B-8). Shipping of materials occurs at the west side of the building. The shipping area also contains storage for compressed gas cylinders used for welding in the maintenance shop (See Section 3.2.2.3), and flammable cabinets for fuel and oil storage for maintenance equipment (snow-blower).

3.2.2.2 **Manufacturing Area**

The manufacturing area is divided into 2 specialized process areas: 1) compounding; and 2) compression (details in Section 3.3.1). The manufacturing area of the facility also includes a tooling room, equipment cleaning and storage rooms, a manufacturing office, a material testing area, and a purified water (PW) room (see Appendix F and G for room and equipment layout).

The compounding area is where raw materials in powder form are weighed in bulk and blended together in large mixtures to achieve the appropriate formula. Once the correct formula is achieved, the prepared mixtures go to the compression area where powders are pressed into tablets. Depending on the batch/product, pressed tablets can then be coated. Water from a reverse osmosis (RO) water system in the purified water room is mixed with coating powders to create the specified coatings. Industrial coating machines are used to coat the tablets. Once tablets are pressed and coated (if applicable), they are stored in quarantine until cleared for release into the packaging process.

- The compounding area consists of five blending rooms and three weighing rooms, all with various sized floor scales and blenders to accommodate a variety of batch sizes.

- The compression area consists of 12 rooms containing presses for tablet compression, 2 wash bays and two flex bays for equipment cleaning, and six rooms with coating pans/dryers for coating caplets. The mezzanine above the compression rooms houses stations where product is gravity-fed to the compression machines.

- The purified water (PW) room houses a reverse osmosis water purification and filtration system for making coating solutions (Appendix B, Photo B-9). Coatings are received in both liquid and powder form. The latter is mixed with reverse osmosis water to form a liquid coating.

- The manufacturing testing area (#311) consists of shelving and storage for plastic tubs, sample bottles, and containers. The testing area contains countertop equipment for friability and dissolubility testing (Appendix B, Photo B-10).

- Natural gas-fueled equipment includes boilers for hot water tanks located throughout the facility and Bunsen burners in the laboratory.

- Equipment in the manufacturing area requires electricity, along with oils/lubricants. Cleaning products in the equipment cleaning rooms include Oxonia®, Oxofoam®, and Deosan® cleaners (see Appendix H for Safety Data Sheets (SDS)).

- Equipment cleaning rooms are located in the manufacturing area. No sump pits are located on site. There are 3 floor drains from cleaning rooms convey used water/cleaner to discharge to the City of Winnipeg sewer system (Appendix ROB, Photo B-11).

3.2.2.3 **Packaging Area**

The packaging area consists of automated packaging and cartooning lines where tablets/caplets are received in bulk from the manufacturing area and are placed into bottles and (if applicable), boxed in cardboard, coded, and labelled (see Appendix G for equipment layout).

- The packaging area consist of 6 automated packaging lines for over the counter (OTC) medications, 4 packaging lines for nutraceuticals, and 6 cartoning lines (Appendix B, Photo B-12).

- Packaging materials are received at the site and stored in quarantine in the warehouse, until tested and deemed usable by Quality Assurance, prior to being moved to the packaging lines.

3.2.2.4 **Maintenance Shop**

A maintenance shop, located adjacent to the packaging area, houses assembly/work benches, compressed air lines for pneumatic tools, a parts washer, and a welding fume hood for equipment maintenance.

- The filter on the fume hood is changed bi-monthly by outside contractor (Appendix B, Photo B-13, B-14).

- Inputs into the maintenance shop including electricity, metal, compressed gases for welding (oxyacetylene and argon), machining oil, and lubricant for the hydraulic shop press, and

fuel for the snowblower. Outputs include spent filters, sent to landfill, and scrap metal shavings, sent to Orloff Scrap Metals on an as-needed basis.

- Scrap metal shavings generated in the maintenance shop are collected for recycling by Orloff Scrap Metals (Appendix B, Photo B-13).

3.2.2.5 Second Floor and Laboratory

A laboratory for testing of raw and manufactured products as part of Quality Assurance is located on the second floor. The laboratory consists of multiple laboratory benches and equipment such as high-pressure liquid chromatographers, titrators, refrigerators, hot water baths, computers, and four fume hoods (Appendix B, Photo B-15). Offices used for research and development and a lunchroom are also located on the second floor outside of the laboratory area (see Appendix F for second floor layout).

- A dry chemical room is located in the laboratory area and houses dry reagents (powders) on shelving along with controlled substance samples stored in a locked cabinet (Appendix B, Photo B-16).

- A separate microbiology room exists in the laboratory area for the testing of moulds, yeasts, and microbes (*E. coli*).

- A satellite hazardous waste storage area also exists adjacent to the laboratory area and is equipped with 5 shock-proof, ventilated, explosion-proof flammable materials storage cabinets.

- The second floor mezzanine also contains the second floor of the manufacturing area including storage rooms for parts and filters, a facilities room that houses a distribution and pumping system for liquid cleaners along with a dust-collection/vent system to collect dust from the compounding and compression rooms (Appendix B, Photo B-17). The mezzanine also contains the funnels to gravity-feed product into the manufacturing compressors on the first floor below (Appendix B, Photo B-18).

3.2.3 Outdoor Spaces (Shipping, Receiving, Parking)

Outdoor spaces surround the facility and include:

- Uncovered paved parking (approximately 280 stalls) on the east, west, and south sides of the building.

- Paved outdoor shipping and receiving areas consisting of 4-bay and 3-bay loading docks, respectively, on the west and east sides for the incoming supplies and outgoing product shipment (Appendix B, Photo B-19).

- Delivery vehicles collect 1-3 times/day and drop off 6-10 times/day to the shipping/receiving areas. A Vita Health truck transfers finished product to an off-site distribution warehouse approximately 10 times/day.

- A large scrap metal collection bin (approximately 4.5 m^3) exists along the east side of the building near the receiving area. The bin is picked up for removal by Orloff Scrap Metals an as-needed basis (Appendix B, Photo B-20).

- One recycling bin (approximately 6 m^3) for collecting mixed recyclables from the entire facility, is located on the east side of the building, adjacent to the receiving area (Appendix B, Photo B-21) and is picked up for removal by Haul-Rite Environmental on a monthly basis.

- One large solid waste bin (approximately 25 m^3) for packaging and office waste is located on the east side of the building near the receiving dock, and is collected by Waste Management of Canada twice per week (Appendix B, Photo B-22).

- One ground-level transformer – on the east side of the building (PCB free) – is present on-site and is owned and maintained by Manitoba Hydro (Appendix B, Photo B-23). Several dry transformers are also located throughout the facility.

- One outdoor dust collector, on the southeast side of the building, collects dust particles from the compounding and compression rooms of the manufacturing area (Appendix B, Photo B-24). The dust is collected daily into fiber drums and sent to landfill on a regular basis.

3.3 PRODUCTION PROCESS

3.3.1 General

The facility operates a high-volume, high-variety, pharmaceutical and nutraceutical manufacturing process, with a current production rate of approximately 3.0-3.5 billion tablets/year and a production capacity of approximately 5.0 billion tablets/year. Raw materials for manufacturing (pharmaceutical and nutraceutical liquids and powders) and materials for packaging (boxes, bottles, and labels) arrive at the Project site via daily delivery truck (6-10 trucks/day).

All materials (both raw materials and packaging) are stored in the warehouse storage area, where they are quarantined prior to being tested, and approved for release. Narcotics are stored in the narcotics vault. Once the on-site laboratory approves the samples tested through their quality assurance process, materials are moved from the quarantine area to the packaging area and/or manufacturing area. The material process flow is illustrated in Appendix I.

The manufacturing area of the facility is divided into two specialized process areas: 1) compounding; and 2) compression. These processes are described in detail below. Other spaces in the manufacturing area of the facility include a tooling room, equipment cleaning and storage rooms, a manufacturing office space, and a manufacturing testing area.

1) The compounding area is an area where bulk raw materials in powder form are weighed and blended together to achieve the appropriate mixture. The raw materials are weighed on large floor scales in the designated weighing rooms and then brought to the manufacturing mezzanine where they are gravity-fed to the underlying blending machines to achieve the correct mixture. There are three rooms designated for weighing and five rooms designated for blending. Equipment includes floor scales of varying capacities to accommodate varying batch sizes, along with a large mixer, and both large and small ribbon blenders (Appendix B, Photos B-25). An equipment location map for the manufacturing area is attached in Appendix G. Inputs for the compounding equipment include electricity and machining lubricants. Outputs include used oil/lubricants which are disposed of as hazardous waste by Miller Environmental, and pharmaceutical dust which is collected in the in-house dust collection systems and disposed of to the municipal landfill (Brady Road Resource Management Center). Once the tablets are compounded the prepared mixtures go to the compression area.

2) The compression area consists of 12 rooms designated for pressing prepared mixtures into caplets using Fette®, Courtoy®, Bosh®, and Unipress® tablet presses and encapsulators. Similar to the compounding area, prepared powders are brought to the manufacturing mezzanine where they are gravity fed to the underlying tablet presses. The machines fill a die with a predetermined amount of the prepared mixture. Force is then exerted on the dies through punches, compressing the powder into the desired shape and size. A pressing machine is depicted in Appendix B, Photo B-26. Once caplets are pressed, they are stored in quarantine until the batch is approved by Quality Assurance and released. Inputs for the pressing machines include electricity and machining lubricants. Outputs include used oil/lubricants, which are disposed of as hazardous waste by Miller Environmental, and spoiled pharmaceuticals, which are disposed of through Stericycle as pharmaceutical product destructions.

Certain types of tablets (i.e., colored, hard to swallow, slow-dissolving) require coating. These batches proceed to the coating area. The facility has six rooms dedicated to product coating. The coating pans coat the tablets in a pre-made or in-house prepared coating liquid and dry them in the pan using an electric powered hot air blower. For the coating process, a purified water room is also located in the manufacturing area. This room is equipped with a reverse osmosis and continuous de-ionization system to filter municipal water to be used to prepare the in-house made coating liquids and to be used in equipment cleaning (see Appendix B, Photo B-9).

Once coated these batches move to quarantine. Inputs into the coating equipment include electricity, machining lubricants, municipal water purified through reverse osmosis for coating,

and coating powders. Outputs include used oils/lubricants which are disposed of as hazardous waste by Miller Environmental and product destructions disposed of as pharmaceutical waste through Stericycle.

There are two wash bays for equipment cleaning are also located in the manufacturing areas. The wash bays utilize municipal water and Oxonia®, Oxofoam®, and Deosan® cleaner to clean equipment between batches. Air lines with compressed air also feed into these areas to facilitate equipment drying (see Appendix B, Photo B-27, B-28). The equipment cleaning rooms contain floor drains that convey wash water to the City of Winnipeg sewer system. The air system contains air/water separators to facilitate equipment drying. Inputs into the equipment cleaning areas include compressed air, water, electricity, and industrial cleaners. Outputs include wastewater.

The manufacturing testing room is also located in the compression area. This room houses a fume hood where equipment that is in direct contact with the tablets/caplets can be cleaned/sterilized with alcohol (Appendix B, Photo B-29). The area also houses multiple storage cabinets for plastic tubs and sample bottles, along with testing machines for dissolvability and friability (see Appendix B, Photo B-10). Inputs into this area include electricity and alcohol for cleaning. Outputs include used alcohol that is disposed of as hazardous waste. Denatured pharmaceutical products are sent to Miller Environmental for proper disposal.

3.3.2 Packaging process

Once the manufactured tablets/caplets and packaging materials are released by the laboratory from quarantine, they are sent to the packaging area. The packaging area consists of six automated packaging lines for OTC products, four lines for nutraceuticals, along with six cartoning lines for bottled products that are also packaged in a box (see Appendix B, Photo B-12, B-30, and B-31).

The automated packaging lines conveys the bottles through a hopper to keep them upright and conveys the tablets/caplets through a hopper to count and deposit them into each bottle. It then conveys the bottles through a metal detector, codes the bottles, inserts cotton (if applicable), conveys the bottles to a sealing machine where a seal is heat-inducted onto the top, and conveys the sealed bottles to a twisting machine to secure the cap. Bottles are then labelled, ink jetted with an expiration, and placed into trays, and can then be conveyed through a heat tunnel for shrink-wrapping (if applicable) (Appendix B, Photo B-31).

The cartoning line inserts the filled bottles into cardboard boxes, where they are coded with an expiry, labelled, and sealed. The cartoning area is also used for specialized processes, such as manual sorting and packaging products for wholesale clients (i.e., multiple flavors in one box). Inputs into the packaging process include heat, electricity, compressed air, and ink. Outputs include used ink (disposed of as hazardous waste by Miller Environmental), and spoiled packaging materials, including shrink wrapping and cardboard, which are disposed of through

solid waste (2x/week collection by Waste Management of Canada) or recycling (monthly collection by Haul-Rite).

Once products are packaged, they are moved into quarantine, then moved to shipping once cleared by Quality Assurance, and shipped to the off-site distribution center or directly to the client.

3.3.3 Laboratory

Once raw materials are received, samples are taken and sent to the laboratory for quality assurance testing to verify if contamination has occurred and to confirm that the product meets specifications. Once the laboratory releases the batch, it is sent to manufacturing. After the manufacturing process, product samples are again taken for quality assurance testing to verify that the correct mixture was achieved. Packaging materials are also tested in a microbiological laboratory room for moulds, yeast and other biological contamination prior to being released to the packaging lines.

The laboratory operates multiple high-performance liquid chromatography machines, thin layer chromatography machines, balances, agitators, hot water baths, dissolution units, 4 fume hoods, titrators, and a fridge (Appendix B, Photo B-15).

The laboratory houses 5 yellow flammable materials storage cabinets (vented, grounded and explosion proof) to house liquid reagents. A dry chemical room is also located in the lab to store dry narcotics sample storage, dry reagent powders, and detergents (Appendix B, Photo B-16). A satellite hazardous waste storage room is located in the laboratory and temporarily stores reagents, and expired chemicals. This waste is transferred to the 1st floor hazardous waste room where it is collected by Miller Environmental on a bi-weekly basis (Appendix B, Photo B-4). Inputs into the laboratory equipment include electricity reverse osmosis water, natural gas for burners, equipment cleaning products, and chemical reagents. Outputs include spent chemical reagents, disposed of as hazardous waste by Miller Environmental.

3.3.4 Hazardous Waste Management

The facility is registered as a provincial hazardous waste generator, #MBG00887. Hazardous waste is generated at the facility and is composed of primarily expired/spent chemical reagents used in the laboratory testing process, waste ink from the packaging lines and waste hydraulic oils from maintenance and production equipment. Other hazardous wastes from operations include fluorescent lightbulbs/ballasts and denatured pharmaceuticals. These hazardous waste streams are disposed of by Miller Environmental on a biweekly basis.

Hazardous waste is also generated as used forklift/pallet lifts and machinery batteries. These batteries are stored on racks at the forklift charging station near the receiving area and collected for appropriate disposal by Industrial Trucking Services Ltd. on an as-needed basis.

Unused or expired chemicals/reagents from the laboratory testing process are stored according to the SDS for each chemical. Spent containers or expired chemicals are moved to the satellite hazardous waste room in the laboratory, where it is transferred bi-weekly to the first floor hazardous waste storage for pickup/disposal by Miller Environmental.

Currently, the dust collectors are emptied daily and approximately 120 kg/day of manufacturing dust is sent to municipal landfill (Brady Road Resource Management Center). Vita Health is currently reviewing this practice and exploring the option to send this dust to Miller Environmental for disposal as pharmaceutical waste.

Approximate volumes of hazardous wastes generated through the operational processes are summarized in Table 3-1 below and are based on hazardous waste manifests collected throughout 2018. All hazardous wastes (approximately 40,535 L/year) are collected via a licensed hazardous waste processor (Miller Environmental) on a bi-weekly basis.

Table 3-1 Estimated Hazardous Waste Volumes (L/year)

Chemical Group	Liters/year
Corrosive Liquid (hydrochloric acid)	1025
Corrosive Liquid (potassium thiosulfate)	100
Corrosive Liquid (sodium hydroxide)	205
Flammable Liquid (hexane)	530
Flammable Liquid (methanol oil mix)	205
Flammable Liquid (sodium acetate)	205
Flammable Liquids (alcohol mix)	140
Flammable Liquids (methanol)	1405
Flammable liquids (petroleum distillates)	205
acid labpack	545
alcohol/vials	180
alcohol mix	1230
alkaline solution	205
alkaline labpack	59
organic labpack	43
cyanide debris	2
cyanide labpack	3
flammable labpack	675
denatured pharmaceuticals	32,349
oxidizing labpack	48
empty glass containers	475
inorganic acid liquid	615

Table 3-1 Estimated Hazardous Waste Volumes (L/year)

Chemical Group	Liters/year
potassium phosphate	615
methanol	2,050
methanol >15% water	410
non-regulated liquids	615
oil	205
printing ink	205
reactive labpack	6
Hazardous waste generated (L/year)	40,535

3.3.5 Wastewater Management

Sanitary wastewater from the employee lunchrooms, washrooms, and the wash bays in the compression and compounding areas are conveyed to the City of Winnipeg's municipal sewer through 3 connections on the north wall of the facility. Wash water from cleaning the general work areas is disposed of to a sink along with sanitary wastewater.

Stainless steel parts are cleaned using the dedicated wash bays in the compounding and compression areas (Appendix B, Photo B-11). Equipment is washed with Oxonia®, Oxofoam®, and Deosan® cleaners. The resulting rinse-water is conveyed through floor-drains to the City of Winnipeg Sewer connection on the north side of the building (Appendix B, Photo B-32).

The Vita Health facility operates with a City of Winnipeg Overstrength Wastewater Discharge Permit #VITA-2016 under Sewer By-law No. 92/2010 (Appendix E). A City of Winnipeg test report in 2010 indicated an overstrength concentration of zinc and phosphorus. Vita Health has since implemented procedures to mitigate the overstrength parameters in the form of a wipe-down procedure prior to wash down for zinc and use of a qualifying Phosphate-free cleaning detergent (Oxonia® cleaner) to reduce phosphorous loading. No pre-treatment is used prior to discharge.

3.3.6 Solid Waste Management

Solid waste management within the facility includes waste bins and recycling bins situated throughout the facility, including offices and lunchroom areas (Appendix B, Photo B-33, B 34). Solid waste materials generated include office trash, plastic, scrap metal from equipment welding/maintenance, shop rags, gloves/uniforms, empty drums, and corrugated cardboard.

The general waste bins (i.e., packaging wastes) are regularly emptied into one outdoor garbage/trash roll bin (approximately 25 m^3) located outside of the receiving area on the southeast side of the building and is collected twice per week by Waste Management of

Canada (Appendix B, Photo B-22). One recycling roll bin (approximately 4.5 m^3) for mixed recyclables is also located outside the receiving area (Appendix B, Photo B-21). Removal of the recycling material is currently contracted to Haul-Rite Environmental with pick-up occurring on a monthly basis. Cardboard and paper recycling are appropriately shredded and/or recycled on a regular basis by Phoenix Recycling Inc. and damaged pallets are collected by Paramount Pallet. Office and kitchen wastes are removed by Cascades Recovery for appropriate recycling and disposal. Gloves and uniforms are currently laundered regularly by Quintex Services.

Spent filters from the dust collection system are changed bi-annually or as needed and manufacturing dust (approximately 120 kg/day) is emptied from the collectors daily and sent to the municipal landfill (Brady Resources Management Center)(see Section 3.3.4).

3.3.7 Chemical Use On-site

The Vita Health facility maintains an approved list of chemicals for its operations including the current volumes of each chemical on site (provided in Appendix J). SDSs are kept on-site and maintained through an on-line data management system for controlled chemical products used for manufacturing and testing activities and maintenance of equipment. Flammable materials storage cabinets are situated throughout the facility for storage of the controlled chemicals including liquid chemical reagents in the laboratory, bulk alcohol, hydraulic fluids, paints, and antifreeze in the manufacturing area, and bulk alcohol/ink in the warehouse and packaging areas (Appendix B, Photo B-3). The Project site has no above or below ground fuel storage tanks and no backup generators service the facility.

3.3.8 Water, Electric and Gas Utilities

Potable and process water for the Vita Health facility is provided via the City of Winnipeg's municipal water supply system. Water is used in the manufacturing process for rinsing and cleaning stainless steel parts in the compounding and compression area wash bays and is treated by reverse osmosis for use in coatings. Sanitary water is used for other incidental needs typical of those required for normal facility and employee purposes.

The main water line connection is located on the north side of the building. The annual water consumption for the facility is estimated at 13,972 m^3, based on the most recent utility bills (Nazarkiewicz pers. comm. 2019). Individual process areas within the building are not separately metered for water consumption.

Employee washroom facilities are located throughout the building and additional connections to the municipal sewer system are present in the 2 lunchrooms (1st and second floor) in the building for sanitary wastewater.

Electricity is provided to the site via overhead power lines from the south edge of the property to a pad-mounted transformer (PCB free) along the east side of the building. Several other PCB-

free, dry, pad mounted transformers are located throughout the building. The annual electricity consumed by the operations is approximately 4,688,500 kW.h (Nazarkiewicz pers. comm. 2019).

The main natural gas line runs along the north side of the building to a meter on the north wall. The facility is equipped with natural gas fired hot water tanks. A natural gas line is also provided to the laboratory for laboratory equipment (Bunsen burners). The facility is equipped with 44 roof-mounted, natural gas, air exchange units that also use using R410a refrigerant. Maintenance of this equipment is conducted by contracted service providers as required. Annual natural gas usage recorded at the facility is approximately 299,922 m^3 based on recent utility estimates (Nazarkiewicz pers. comm. 2019).

3.3.9 Health and Safety

It is Vita Health's policy to provide a safe and healthy work environment for its employees. Vita Health recognizes that safety is an integral part of efficient production and accordingly, insists on dedicated participation in the safety program. The health and safety program consist of 13 key components including:

- Orientation
- Hearing conservation program
- Machine guarding and log out/tagout program
- Fire safety plan
- Hazard identification, control and reporting
- PPE
- Chemical and biological hazard control program
- Lift truck operations
- Safe laboratory practices
- Injury reporting and investigation
- First aid
- Emergency response plan
- Harassment and violence protection

The Vita Health Safety Program is established by the policy framework and clearly explains the commitments, roles and responsibilities of management, supervisors, and its workers. With

approximately 580 employees at the facility, a Workplace Safety Committee plays an important role in supporting the system through collaboration between management and workers. The Committee is made up of 12 staff members, of which 9 are workers (7 of which are unionized), and 3 are management staff. This committee meets every month to review safety related incidents and regularly inspect the facility.

The facility Health and Safety Plan and associated training consists of multiple components described in Table 3-2 below.

Table 3-2 Summary of Health and Safety Components and Associated Training

Health and Safety component	Training frequency
Orientation	1st day of hire
Safety review	1x/year
Emergency response plan	1x/year plus quarterly drills
Pedestrian safety	1x/year
Incident investigation	Every 3 years
Root cause analysis	Planned annually
Lock out/tag out program	1x/year plus quarterly audits
Hearing conservation	1x/year
Machine guarding	Every 3 years
Lift truck	As required then every 3 years with annual safety driving demonstration
Aerial lift with fall protection	As required then every 3 years with annual safety driving demonstration
Fire extinguisher	Annually
WHMIS	Within 1st 70 working days and then annually
Chemical spill	Annually
Respirator use and maintenance	Annually with annual fit testing
Eye protection	Every 3 years
Safe supervisor	Every 3 years
First Aid/CPR/AED	Annually
Ergonomics	Every 2 years and within 1st 60 days for some positions
Ladder use and inspection	Annually
Hand Protection	Every 3 years

4.0 SCOPE OF THE ASSESSMENT

4.1 SPATIAL AND TEMPORAL BOUNDARIES

For the purposes of this environmental assessment, the Project site, Local Assessment Area and Regional Assessment Area are defined as:

- Project site – the existing facility and property including the building, paved parking and loading areas, defined as *Lots 1-2, Plan 16587 WLTO, Parcels A-D, Plan 29058 WLTO, and Parcel A, Plan 38342 WLTO in Lots 197 and 200 Roman Catholic Mission Property* (see Plant Site on Appendix A, Figure 2).

- Local Assessment Area (LAA) – area within a 1-km radius of the facility including the surrounding areas of the St. Boniface Industrial Park (Appendix A, Figure 4). For the purposes of the assessment, the LAA is the area over which the majority of direct Project residual effects are expected to potentially occur.

- Regional Assessment Area (RAA) – area beyond the LAA up to a 2-km radius from the Project site, including the surrounding residential community of the Mission Gardens, South Transcona, the Dugald business park, and Canadian National's (CN) Symington and Transcona Yards (Appendix A, Figure 5). For the purposes of the assessment, the RAA represents the area over which direct residual effects of the Project are compared to provide context in terms of significance. As the effects of greenhouse gas emissions are not practical to assess over a 2-km radius, the RAA for greenhouse gas effects is interpreted on a provincial scale.

For the purposes of this assessment, the following temporal boundaries are defined:

- Operation phase – the period over which the facility will be in operation at its present location, which is anticipated to be at least 50 years.

- Decommissioning phase – the period in which the facility is anticipated to be decommissioned (at least beyond 50 years). Decommissioning would be anticipated to consist of the removal of all Vita Health-specific equipment, materials, and wastes from the site. Decommissioning would be conducted according to licence conditions and regulatory requirements at the time.

5.0 EXISTING ENVIRONMENT IN PROJECT AREA

5.1 BIOPHYSICAL SETTING

5.1.1 Physiography

The RAA is located in the eastern portion of the City of Winnipeg within the Winnipeg Ecodistrict of the Lake Manitoba Plain Ecoregion, which is within Manitoba's Prairie Ecozone (Smith et al. 1998). The local relief in the Winnipeg Ecodistrict is fairly level, with the landscape described as a smooth to very gently sloping, clayey glaciolacustrine plain with a mean elevation of about 236 m above sea level (Smith et al. 1998).

The surficial geology within the RAA consists of glacial till, clays and silts and channel deposits associated with the Red River (Matille 2004), deposited by glacial Lake Agassiz. The underlying bedrock consists of Paleozoic dolomitic limestone bedrock associated with the upper Red River Formation, Fort Garry Member (Manitoba Energy and Mines 1990; Smith et al. 1998).

5.1.2 Climate and Air Quality

The climate of the Winnipeg Ecodistrict is characterized by short, warm summers and long, cold winters. The mean annual temperature is approximately 3°C. The mean annual precipitation is approximately 521.1 mm but varies from year to year and is highest in spring and summer. Snow accounts for less than one quarter of the precipitation. The nearest meteorological station to the Project with >20 years of data recorded is located at the Winnipeg Richardson International Airport in Winnipeg, Manitoba approximately 14 km west of the Project site (Environment and Climate Change Canada 2018b). Monthly climate normals are provided in Table 5-1. The predominant wind direction at the Winnipeg Richardson International Airport weather station is from the northwest for nine months of the year (Environment and Climate Change Canada 2018b).

Table 5-1 Climate Normals for the Winnipeg International Airport (1981-2010)

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr
Temperature (°C)													
Daily Avg.	-16.4	-13.2	-5.8	4.4	11.6	17	19.7	18.8	12.7	5	-4.9	-13.2	3
Daily Max.	-11.3	-8.1	-0.8	10.9	18.6	23.2	25.9	25.4	19	10.5	-0.5	-8.5	8.7
Daily Min.	-21.4	-18.3	-10.7	-2	4.5	10.7	13.5	12.1	6.4	-0.5	-9.2	-17.8	-2.7
Precipitation													
Rainfall (mm)	0.2	2.7	9.7	19.2	54.1	90	79.5	77	45.5	32.7	6.9	1.5	418.9
Snowfall (cm)	23.7	12.5	16.5	10.6	2.6	0	0	0	0.3	4.8	19.9	23	113.7
Total (mm)	19.9	13.8	24.5	30	56.7	90	79.5	77	45.8	37.5	25	21.5	521.1
Source: http://www.weatheroffice.ec.gc.ca													

The closest air quality monitoring station is located in downtown Winnipeg, approximately 6.5 km west of the Project site. Air quality in the Project area is represented by data collected for the City of Winnipeg. The City of Winnipeg generally has good air quality. Air quality concerns in the province from pollutants tend to be localized in nature. The sources of airborne pollutants typically include industrial operations, vehicle emissions, man-made substances and other specific activities (MSD 2018a).

5.1.2.1 Greenhouse Gas Emissions

The Province of Manitoba's greenhouse gas (GHG) emissions from various sectors for the years 1990 to 2016 were reviewed. According to Canada's National Inventory Report 1990-2016, Manitoba emitted a total of 20,900,000 tonnes of carbon dioxide equivalent (CO_2 e) in 2016, a 100,000 tonne increase from 2015 (Environment and Climate Change Canada 2018c). Based on the latest Manitoba data (2016), GHG emissions were composed of the following sources: fossil fuel burning (60%) involving the transportation of goods and people, stationary combustion (e.g., commercial heating) and fugitive sources (e.g., flaring); agriculture (32%); waste disposal (4%); and industrial processes (4%). Manitoba's fossil fuel burning category was much lower proportionally than that of Canada largely due to Manitoba's use of hydro power to produce electricity. The overall trend in Manitoba's GHG emissions was higher in 2016, 14.0% above the 1990 level (Manitoba Eco-Network 2018). Manitoba's GHG emissions also increased between 2005 and 2015 (0.7%) but to a lesser extent than in other provinces (Environment and Climate Change Canada 2018c).

5.1.3 Hydrogeology and Groundwater

The RAA is underlain by the Stony Mountain Formation (Ordivician age) calcareous shale and limestone beds. The underlying bedrock is overlain by overburden that is about 9 to 12 m thick and includes the Winnipeg Formation Aquifer, the Lower Carbonate aquifer and the Upper Carbonate aquifer. The Upper Carbonate Aquifer is a partially confined aquifer above the glacial drift and below slightly impervious underlying carbonate rock. The aquifer rests on the upper shale of the underlying Winnipeg Formation (Kjartanson et al. 1983) and contains variable potable water. This groundwater is not used as a potable water source by the City of Winnipeg or Vita Health. Regional groundwater flow direction in the aquifer is to the southeast.

5.1.4 Soils

The soils in the study area are predominantly imperfectly drained Gleyed Humic Vertisols and Black Chernozems developed on calcareous, clayey glaciolacustrine sediments (Smith et. al. 1998). Surficial deposits in the vicinity of the site have been identified as silt and glacial till with traces of sand and gravel above limestone and shale bedrock to a depth of approximately 12 to 21 metres (Groundwater Information Network 2014; Kjartanson *et al* 1983).

5.1.5 Surface Water

Aside from man-made regional storm drainage ponds, the nearest natural surface water body to the Project is the Seine River which is nearly 4.2 km west of the site. Surface drainage from the Project site is to a land drainage sewer along Paquin Road and then to a retention pond, located approximately 80 m west of the site in Mazenod Park, and draining via a pumping station to a land drainage sewer into a drainage ditch (i.e., Dugald Ditch) to the Seine River, approximately 5 km to the west (City of Winnipeg 2008).

5.1.6 Vegetation and Wildlife

Historically, natural vegetative cover in the RAA within the Winnipeg Ecodistrict consisted of a mixture of tall-grass prairie and meadow grass prairie communities (Smith et al. 1998).

The LAA currently is all disturbed land within an existing industrial area. Limited vegetation remains on the Project site. Small, isolated clumps of trees and landscaped grassed areas are located on boulevards along the perimeter of the property. Mazenod Park is located approximately 80 m west of the site and contains a row of trees and shrubs, and a stormwater retention pond.

The industrial area does not contain any natural wildlife habitat. Common domestic urban bird species (e.g., crows, Canada geese) are common near stormwater retention ponds within the City of Winnipeg. None of these species are expected to be affected by the Project.

5.1.7 Aquatic Environment

As indicated in Section 5.1.4, the nearest natural water body to the Project site is the Seine River, located approximately 4.2 km to the west. There is no direct discharge to the Seine River from the Project site. Wastewater generated at the facility is directed to the City of Winnipeg sewer system for treatment at the North End Water Pollution Control Centre.

5.1.8 Species of Concern

The MCDC, Occurrence of Species by Ecoregion (Lake Manitoba Plain) was examined to determine the potential for species at risk in the RAA (MCDC 2019). The species listed on the MCDC were cross-referenced with the *Manitoba Endangered Species and Ecosystems Act* (MESEA) to determine provincially listed rare or sensitive species that may occur in the RAA and with Schedule 1 of the Federal *Species at Risk Act* (SARA). Species distribution maps were also consulted where possible to determine listed species that may occur in the RAA. The search results found that there is potential for 24 listed species to occur in the Lake Manitoba Plain Ecoregion. However; the Project site is fully developed in an established industrial park and does not support natural habitat. Accordingly, none of the protected species are expected to be directly affected by the Project.

5.2 SOCIO-ECONOMIC SETTING

5.2.1 Land Use and Property Ownership

The parcels of land for the Project (Lots 1-2, Plan 16587 WLTO, Parcels A-D, Plan 29058 WLTO, and Parcel A, Plan 38342 WLTO in Lots 197 and 200, Roman Catholic Mission Property) are privately owned by Vita Health Products Inc. Vita Health has occupied the site for pharmaceutical manufacturing services since 1983 and has been expanded three times since startup. A site visit was conducted by Stantec on January 18, 2019. Site photographs are included in Appendix B. The land surrounding the Project site is primarily a mix of commercial and industrial land use with manufacturers, processing, and warehousing operations, as follows:

- To the north: Paquin Road and industrial properties including gas supplier Kraus Global, Food Processing company Vantage Foods Inc., Western Logistics, and Construction Restoration Services.
- To the east: Commercial properties including Key Blue Water Inc., and Bockstael Construction Ltd offices.
- To the south: Camiel Sys Street and commercial properties including Color Ad Packaging Ltd. and National Fast Freight.
- To the west: Beghin Avenue and Mazenod Off-leash dog park and retention pond.

5.2.1.1 **Land Development Controls**

The lands within the St. Boniface Industrial park are all privately owned. Crown owned, and Crown-leased lands are associated with a Manitoba Hydro owned right-of-way, located 920 m south of the Project site and the Red River Floodway 6 km east in the RM of Springfield. CN's Symington Yard is located approximately 1 km south of the Project site while CN's Transcona Yard is located approximately 1.6 km east of the Project site. The closest residential development to the subject site in the City is in the South Transcona neighborhood, located approximately 540 m to the northeast. Municipal jurisdictions may adopt development plans[1] and zoning by-laws[2] to guide land use decisions within their respective boundaries. The following municipal development controls are applicable in the RAA:

- Land use in the City of Winnipeg is subject to the development planning document *Our Winnipeg By-Law No. 67/2010* and the *Complete Communities Direction Strategy Secondary*

[1] A development plan is a by-law outlining the long-term vision and goals of a community. It is used to guide development within a municipality or planning district.
[2] A zoning by-law is used to implement development plan policies and must conform to the development plan. Zoning works by regulating the use of land and location of buildings and structures (Manitoba Municipal Government 2015).

Plan No. 68/2010. The Project RAA is designated "General Manufacturing" land use (City of Winnipeg 2011a).

- Land use in the City of Winnipeg is also subject to the City of Winnipeg Zoning By-Law No. 200/06. The Project site within the RAA is zoned "M2 – Manufacturing General" (City of Winnipeg 2019a, 2019b). The existing development and activities are compatible with permitted land use and zoning restrictions for the property.

5.2.2 Population and Economy

The population within the Project RAA is represented by the adjacent residential neighborhoods in the City of Winnipeg. The neighborhood of Mission Gardens, 925 m to the north of the Project site had a population of 4,210 in 2011, a 17.3% increase from the 2006 population of 3,590 and a population density of 2,874.6 persons per km^2 (Statistics Canada 2012a). The neighborhood of South Transcona, 510 m to the northeast of the Project site, had a population of 665 in 2011, a -7.6% decrease from the 2006 population of 720 and a population density of 116.6 persons per km^2 (Statistics Canada 2012a). The closest neighborhood dissemination area[3] that encompasses the RAA has a population of 2,824 according to 2016 Census data (Statistics Canada 2017). The St. Boniface Industrial park itself has no permanent residential population. The closest residential population is located in the South Transcona neighborhood immediately adjacent to the industrial park.

Economic activity within the RAA is principally manufacturing, warehousing, processing, service, storage, wholesale trade and distribution related.

5.2.3 Infrastructure and Services

The Project site can be accessed via City of Winnipeg Route 115 (Dugald Road), a paved-surface regional street that is a full-time truck route (City of Winnipeg 2017) and Beghin Avenue in the St. Boniface Industrial Park.

Multiple rail lines exist in the CN Symington Rail Yard and the CN Transcona Rail Yard, directly adjacent (1.0 km south and 1.6 km east) to the Project site. The Greater Winnipeg Water District (GWWD) Railway and water aqueduct are located 420 m south of the site. There is no direct rail service at the Project site.

Overhead utility electrical lines are located adjacent to the south boundary of the Project site. Other utilities, including gas, sewer and water, are also present at the Project site. The main water and gas connections are located on the north side of the building.

Traffic volumes for main regional thoroughfares surrounding the LAA were obtained from the City of Winnipeg's 2015 Traffic Flow Map (City of Winnipeg 2015). In 2015, the 24-hour Average

[3] Small area composed of one or more neighborhood dissemination blocks (equivalent to a city block), with a population of 400 to 700 persons.

Weekday Daily Traffic for Dugald Road at Beghin Avenue was 28,200 vehicles and 21,100 vehicles east of Beghin Avenue. Dugald Road is considered a Major Arterial road under the city's primary road network classification and is designed for efficient flow of traffic, with limited access and parking and accommodates larger traffic volumes (City of Winnipeg 2016).

Traffic generated by Vita Health employees and operations is composed of approximately 373 personal vehicles accessing the Project site per day by employees and visitors as well as approximately 7-13 trucks per day for shipping product into and/or out of the Project site. Additionally, a Vita Health delivery truck accesses and exits the Project site approximately 10 times/day to deliver product to Vita Health's off-site distribution warehouse. Waste disposal vehicles accessing the Project site include Paramount Pallets, Cascades Recovery, Pheonix Recycling, Orloff Scrap Metals, Waste Management of Canada, and Miller Environmental. The total traffic generated by the site operations is less than 5% of traffic on Dugald Road.

5.2.4 Parks and Protected Areas

There are no provincial parks or protected areas located within the RAA. The nearest natural area/greenspaces include: Mazenod Park located just west of Beghin Avenue (retention pond and City of Winnipeg maintained off-leash dog area), Bernie Wolfe Park and Paulicelli Park in Mission Gardens, and Transcona Golf Course in South Transcona (Sherlock Publishing Ltd. 2016).

5.2.5 First Nation Communities

There are no First Nation communities or lands located in the RAA. The closest First Nation community is an urban reserve held by Long Plain First Nation on land near Century Street in the City of Winnipeg. The urban reserve (1.2 ha parcel) is located approximately 11 km west of the Project site in the Polo Park retail district.

5.2.6 Recreation and Resource Use

Recreational attractions in the RAA include several local city neighborhood playgrounds, sports fields and community clubs, including Transcona Golf Course. The nearest recreational area in the LAA is Mazenod Park, a public, off-leash dog park maintained by the City of Winnipeg, located approximately 35 m west of the Project site. There is no natural resource extraction conducted in the RAA.

5.2.7 Aesthetics and Noise

The principal viewshed for the RAA is industrial and warehouse-oriented in nature, which is commensurate with the existing use of the Project site.

Existing ambient noise levels are typical of an urban industrial park, intermittently high, particularly near industrial and commercial operations and main arterial traffic routes. Existing sources of noise in the Project RAA are primarily man-made noise such as rail movements from

the CN Symington Rail yard, GWWD rail line, road traffic, airplanes, large vehicle movements along Dugald Road, and light manufacturing facilities in the area. The maximum desirable sound level for industrial areas in the province is 70 dBA (daytime and nighttime) according to the Province of Manitoba Guidelines for Sound Pollution. Noise sources from the Project site operations are not anticipated to exceed the maximum desirable sound level for industrial areas at the property site boundary. Noise sources external to the facility buildings are principally the truck traffic on-site and the outdoor dust collection system. These noises are intermittent in nature and are commensurate with noise generated by traffic on the surrounding streets. No noise complaints have been made known to Vita Health regarding the facility operations.

5.2.8 Heritage Resources

No heritage resources have been previously recorded at or within 1 km of the subject site (HRB pers. comm. 2019).

6.0 ASSESSMENT APPROACH

This assessment was completed to meet the requirements of an Environment Act Proposal and includes assessing project-specific environmental effects.

For the purposes of this assessment, the term "*environment*" refers broadly to biophysical and socio-economic elements of the environmental setting, and the "*Project site*" refers to the site of operations of the Vita Health facility located at 150 Beghin Avenue in Winnipeg, Manitoba.

The assessment focuses on valued components (VCs), that are environmental elements of particular value or interest to regulators and other parties and are identified based on the potentially affected biophysical and socio-economic elements of the surrounding environment.

Project-related effects on these VCs are assessed sequentially in the assessment. Residual effects are characterized using specific predetermined criteria (e.g., direction, magnitude, geographical extent, duration, frequency).

6.1 SELECTION OF PROJECT INTERACTIONS AND VALUED COMPONENTS

To focus the assessment on matters of greatest importance, potential interactions of the Project with the surrounding biophysical and socio-economic environment are identified using a variety of sources, including:

- Applicable provincial regulatory requirements.
- Existing information regarding biophysical and socio-economic components found in the Project area (e.g., vegetation, existing land uses, etc.) and results of desktop studies.
- Professional judgment of the assessment practitioners based on experience with similar projects elsewhere and other projects and activities in the Project area.

Biophysical and socio-economic VCs that could be affected through interactions of the environment with the Project were identified to scope the assessment. The VCs that were selected:

- Represent a broad biophysical or socio-economic component that might be affected by the Project; or
- Are a part of the heritage of Aboriginal peoples[4] or a part of their current use of lands for traditional purposes; or
- Are of scientific, historical, or archaeological importance.

[4] As defined by the *Constitution Act, 1982*

For those VCs where a potential interaction could occur; however, it was determined based on past experience and professional judgement that the resulting environmental effect could be managed to acceptable levels through standard operating procedures and/or through the application of best management or codified practices, the VC was excluded from further assessment. The designation, potential project interaction and rationale for selecting each VC is explained in Table 6-1.

Table 6-1 Designation of Valued Components

Component Name	Potential Project Interaction	Included/ Excluded	Valued Component	Rationale for Exclusion or Inclusion and Project Potential Effect
Soils and terrain	x	Excl	No	The Project site is already developed with fairly level paved surfaces; landscaped areas are limited to periphery of property; no additional changes to the physical landscape are proposed; there are reportedly no above or below ground storage tanks on the site (Vita Health 2017). No interaction between Project operations and soils are anticipated and no interactions were identified in the previous Phase 1environmental site assessment (NTS 1999).
Vegetation	x	Excl	No	Limited natural vegetation is present on the site (i.e. grasses, along with some perimeter bushes and trees). The property has been developed since the 1980s for industrial use.
Surface water quality	x	Excl	No	Process and sanitary wastewater generated at the Project site is discharged to City of Winnipeg municipal sewer under the terms of an Overstrength Discharge Permit (#VITA-2016). On-site storm water is drained north to Paquin Rd. and then flows to in the stormwater pond at Mazenod Park. Stormwater generated on-site is anticipated to be characteristic of water quality from paved surfaces within an industrial park and is not anticipated to effect substantial change in water quality in the pond, given the land use of the catchment.

Table 6-1 Designation of Valued Components

Component Name	Potential Project Interaction	Included/ Excluded	Valued Component	Rationale for Exclusion or Inclusion and Project Potential Effect
Fish and fish habitat	x	Excl	No	All process and sanitary wastewater is directed to the City of Winnipeg Sewer for treatment. Potential for site runoff to affect fish habitat is low. Nearest potential unconfirmed fish habitat is located adjacent (west) of the site in the stormwater retention pond at the Mazenod dog park which drains north into Dugald Ditch and approximately 5 km west into the Seine River. Runoff from the project site is anticipated to be characteristic of paved surfaces and characteristic of the surrounding industrial area.
Wildlife and wildlife habitat	x	Excl	No	The Project site does not directly support resident wildlife.
Air quality	**√**	**Incl**	**Yes**	**Existing operation activities contribute to airshed loading via fugitive emissions from on-site fumes generated from on-site processes vented to the surrounding environment. Dust collectors are vented internally. No odor complaints have been received at the site. The Bunsen burners, delivery truck, and snowblower are the only fuel-powered equipment on site. All access roads and parking areas are paved.**
Noise	x	Excl	No	Noise generation is deemed typical for an industrial area; no residences are located immediately adjacent; no noise complaints have been received.
Greenhouse gas emissions	**√**	**Incl**	**Yes**	**Existing operation activities contribute to GHG from natural gas consumption for building/water heating and laboratory equipment, and mobile combustion (delivery truck and snowblower).**
Land and resource use	x	Excl	No	Site activities occur within an existing industrial park; site already zoned for existing land use.
Heritage resources	x	Excl	No	The Project site is located within an existing industrial park that is already disturbed. No known heritage resources exist in the LAA.

Table 6-1 Designation of Valued Components

Component Name	Potential Project Interaction	Included/ Excluded	Valued Component	Rationale for Exclusion or Inclusion and Project Potential Effect
Human health and aesthetics	**√**	**Incl**	**Yes**	**Existing operations include employee handling of hazardous materials (described in Appendix H) that have the potential to impact human health through acute or chronic exposures. These products are managed according to regulations. The Project site is within an existing industrial park; not in immediate proximity to residences and no complaints have reportedly been received by proponent to date. Other human health concerns include ergonomic and workplace injuries related to the operations and associated equipment. The facility currently has a Health and Safety committee to minimized workplace injuries.**
Infrastructure and services	**√**	**Incl**	**Yes**	**Existing operation activities contribute to traffic on Dugald Road and within the St. Boniface Industrial Park. Municipal services (power, water, sewer) have sufficient capacity to accommodate the operations, although the facility maintains an Overstrength Discharge Permit for elevated levels of N, P, BOD, and TSS, which could impact wastewater treatment services. Third party services are utilized for disposal of recyclables, hazardous waste, and solid waste generated on site.**
Employment and economy	x	Excl	No	No significant adverse effects are anticipated; positive effects include benefits related to employment and tax generation.
Note: x – no interaction; **√** – interaction				

VCs included in this assessment are:

- Air quality
- Greenhouse gas emissions
- Human health
- Infrastructure and services

Once interactions that are likely to have effects were identified and the valued components requiring further assessment determined, an analytical framework was used to evaluate and characterize the potential project effects according to a set of standardized criteria to facilitate quantitative (where possible) and qualitative assessment of residual environmental effects (see Section 6.2).

6.2 RESIDUAL EFFECTS DESCRIPTION CRITERIA

Terms used to characterize the residual environmental effects are summarized in Table 6-2.

Table 6-2 Characterization of Residual Environmental Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The long-term trend of the residual effect	**Positive** — an improvement in the valued component compared with existing conditions and trends **Adverse** — a decline in the valued component compared with existing conditions and trends **Neutral** — no change in the valued component from existing conditions and trends
Magnitude	The amount of change in the VC relative to existing conditions	**Negligible** — no measurable change **Low** — a change that falls within the level of natural variability **Moderate** — a measurable change which is unlikely to affect the valued component **High** — a measurable change which is likely to affect the valued component
Geographic Extent	The geographic area in which an environmental effect occurs	**Project site** — residual effects are restricted to the Project site **LAA** — residual effects extend into the LAA (1 km radius of the Project site) **RAA** — residual effects extend between a 1 km and 2 km radius of the Project site; for greenhouse gases the applicable RAA is the province of Manitoba
Frequency	Identifies when the residual effect occurs and how often during the Project or in a specific phase	**Single event** — residual effect occurs once throughout the life of the Project **Multiple irregular event** — residual effect occurs sporadically and intermittently (no set schedule) **Multiple regular event** — residual effect occurs repeatedly and regularly **Continuous** — residual effect occurs continuously
Duration	The period of time required until the VC returns to its existing condition, or the effect can no longer be measured or otherwise perceived	**Short-term** — residual effect restricted to the duration of 1 year **Medium-term** — residual effect extends up to 50 years **Long-term** — residual effect extends for longer than 50 years
Reversibility	Pertains to whether the VC can return to its existing condition after the Project activity ceases	**Reversible** — the effect is likely to be reversed after activity completion and decommissioning/remediation **Irreversible** — the effect is unlikely to be reversed even after decommissioning/remediation

Table 6-2 Characterization of Residual Environmental Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Ecological and Socio-economic Context	Existing condition and trends in the area where environmental effects occur	**Undisturbed** — area is relatively undisturbed or not adversely affected by human activity **Disturbed** — the industrial park location in the city, LAA and RAA are all considered to be disturbed by human development; therefore, the residual effects are disturbed for all interactions.

7.0 ENVIRONMENTAL EFFECTS AND MITIGATION

7.1 ASSESSMENT OF ENVIRONMENTAL EFFECTS

7.1.1 Air Quality

Potential air emission sources from operations at the Project site include residual process emissions from the dust collectors, vehicular traffic on site, and emissions generated from ventilation of the fume hoods in the laboratory, manufacturing testing area, and maintenance shop.

Emissions from the maintenance shop fume hood includes those from welding activities for equipment using oxyacetylene and argon gas. This equipment is used intermittently (on average 2 times/week for 1 hour) and the filter on the fume hood is changed every bi-weekly by a third-party contractor and disposed of to the municipal landfill (reportedly Brady Road Resource Management Center), reducing fugitive emissions and resulting in negligible emissions being generated from this process.

Diesel fuel emissions from the Vita Health transfer truck (approximately 10 trips/day) to the off-site warehouse at 310 De Baets Street are intermittent and are managed through regular off-site maintenance of the truck and through the minimization of idling on site. These emissions are considered negligible relative to emissions generated from the existing traffic within the LAA and RAA. Gasoline fuel emissions from employee traffic (approximately 373 vehicles/day) and the occasional use of the snowblower on the site is considered negligible relative to vehicular traffic in the RAA (approximately 72,800 vehicles/day on Dugald Road and Regent Avenue) (City of Winnipeg 2015). Emissions from natural gas combustion were estimated from recent utility consumption bills (See Table 7-1 below for calculations) and are also considered negligible (573.09 tonnes/year CO_2e) relative to total emissions in the City of Winnipeg (5.4 million tonnes/year CO_2e; City of Winnipeg 2018).

Fugitive emissions may also be generated from the ventilation of materials handled in the fume hoods of the manufacturing testing area and the laboratory. These emissions are considered intermittent low volume sources since hazardous materials are kept sealed in storage cabinets, other than for decanting purposes in the fume hoods; resulting in negligible hazardous emissions being generated for this process.

There are dust collection systems in the compression and compounding manufacturing areas (Rooms 300, 301, 302, 309, 310, 311A, 312, 313, 316, 322A, 322B, 324) which are collected to industrial filters in the manufacturing mezzanine. A large industrial dust collector is also located on the northeast side of the building (exterior). Filters are Donaldson Torit DFT Ultra web, Merv 14 pre-filters and Flanders HEPA filters. Dust collector filters are changed bi-annually or as needed with pre-filters changed monthly. HEPA filters from the interior dust collectors in the second floor mezzanine are also tested bi-annually and replaced as needed. No emissions testing has been

done as this system is recirculating that does not vent externally. Dust is emptied from the dust collectors daily. Due to the frequency of the maintenance on dust collection equipment (emptied daily), the recirculation of the exhaust, and the use of a temporary, mobile dust collection system in manufacturing rooms which do not contain dust collectors (see Appendix B, Photo B-35), the resulting emissions are considered negligible.

Dust generation from visitor and employee traffic (approximately 373 vehicles/ day), commercial traffic (7-13 trucks per day), and the Vita Health transfer truck (approximately 10 trips/day) is considered negligible since the roads and parking areas are paved. No complaints have been received to date regarding air emissions, odors, or noise (Nazarkiewicz pers. comm. 2019).

Summary

With the implementation of the existing mitigation and prevention measures identified, the potential adverse effects on air quality from the Project operations are expected to be negligible in the LAA, long-term in duration, continuous, and reversible upon Project decommissioning.

7.1.2 Greenhouse Gas Emissions

MSD's EAP Guidelines require a consideration of climate change implications. Specifically, the guidelines indicate that a GHG inventory should be conducted in the assessment of environmental effects of a development. Technical guidance for conducting such an inventory is provided by Environment and Climate Change Canada (2018a) and the United Nations Framework Convention on Climate Change (IPCC 2006). The inventory is to include direct emissions associated with facility operations.

The existing facility generates direct GHG emissions under the Mobile Combustion and Stationary Fuel Combustion source categories. The direct GHG emission sources identified include diesel fuel usage for a 5-ton truck, occasional gasoline use for the snowblower, and natural gas combustion for building and water heating on-site and for the Bunsen burners in the laboratory.

To determine the potential GHG emissions related to the existing manufacturing facility, a facility level estimate of direct GHG emissions was completed for the Project site. Fuel consumption estimates for on/off site vehicle usage were derived from Vita Health annual data on an annual average basis (i.e., 5-ton truck). Natural gas usage for commercial building heat and laboratory Bunsen burners was determined from Vita Health recent billing data (Vita Health 2019).

7.1.2.1 **Mobile Combustion**

A 5-ton delivery truck is used at the facility to transfer product from the Project site to an off-site distribution warehouse located in the St. Boniface Industrial Park. The truck uses approximately 1606 L of diesel/year. The combustion of diesel fuel generates carbon dioxide (CO_2), methane

(CH_4), nitrous oxide (N_2O), nitrogen oxides (NO_X), and carbon monoxide (CO) – all of which are considered greenhouse gases (Environment and Climate Change Canada 2018c). GHG emissions resulting from the use of the 5-ton truck at the facility are summarized in Table 7-1. The gasoline combustion for the occasional use of the snowblower (used for walkways) was considered negligible.

7.1.2.2 **Stationary Fuel Combustion**

The use of natural gas for laboratory Bunsen burners and to heat the building and water on-site produces CO_2, CH_4, N_2O, NO_X, CO emissions, volatile organic compounds (VOCs), trace sulphur dioxide (SO_2) and particulate matter (PM). Annual natural gas usage at the facility was estimated at 299,922 m^3 based on recent utility bills (Vita Health 2019) and these are not expected to increase substantially. GHG emissions associated with the facility's use of Manitoba marketable natural gas is presented in Table 7-1.

7.1.2.3 **Current Facility Emissions**

The estimated GHG emissions created from fuel usage in the operation of the existing facility as shown in Table 7-1 is approximately 573 tonnes (0.573 kt) per year carbon dioxide equivalent (CO_2 e). Environment and Climate Change Canada's mandatory reporting threshold for GHG emissions on an annual basis is 10,000 tonnes (or 10 kt) of CO_2 e. The current facility generates less than 1% of the reporting threshold. As such, the facility is not considered a major contributor of GHG emissions.

The GHG emissions reported in 2016 by the Province of Manitoba in Canada's National Inventory Report 1990-2016 totaled 20,900,000 tonnes of CO_2 equivalent (Environment and Climate Change Canada 2018c). The Vita Health site GHG emissions are considered to be negligible in comparison to total provincial GHG emissions.

Table 7-1 Greenhouse Gas Emissions Summary

Vita Health Facility Existing Conditions					
GHG Source	**Consumption[1]**	**Emission Factors**	**Units**	**Emissions**	**Reference**
GHG Emissions = Fuel Consumption x Emission Factor					
Mobile Combustion (On/Off-site transportation) - 5-ton truck (diesel)	1,606 L/year (average)	g/L CO2 – 2,681 CH4 – 0.14 N2O – 0.082	g/year	CO_2 – 4,305,686 CH_4 – 224.84 N_2O – 131.69	Environment and Climate Change Canada NRI Report 1990-2016 Table A6-12 Emission for Energy Mobile Combustion Sources, Heavy-Duty Diesel Vehicles, Moderate Control
Stationary Fuel Combustion - Natural gas	299,922 m^3/year	g/m^3 CO_2 – 1,886 CH_4 – 0.037 N_2O – 0.035	g/year	CO_2 – 565,652,892 CH_4 – 11,097.1 N_2O – 10,497.3	Environment and Climate Change Canada NRI Report 1990-2016 Table A6-1 CO_2 Emission Factors for Natural Gas, Manitoba Marketable emission factor Environment and Climate Change Canada NRI Report 1990-2016 Table A6-2 CH_4 and N_2O Emission Factors for Natural Gas, Commercial/Institutional emission factor
GHG Emissions		Total CO_2 Total CH_4 Total N_2O	kg/day	CO_2 – 1560.46 CH_4 – 0.031 N_2O – 0.030	IPCC 2006
Global Warming Potentials[2]		GWP	100-year	CO_2 – 1 CH_4 – 28 N_2O – 265	IPCC GWP values (updated 2014)
Total CO_2 Equivalent = Total GHG Emissions x GWP		Total CO_2 e	kg/day tonnes/year kt/year	CO_2 e 1569.04 CO_2 e 573.09 CO_2 e 0.573	IPCC 2006

Notes: [1] Usage numbers provided by Vita Health.; [2] the 100-year GWP for methane (CH_4) is 28 – an emission of 100 kilotonnes (kt) of methane is equivalent to 2,800 kt CO_2 equivalent (28 x 100 kt)

Source: Environment and Climate Change Canada 2018a; IPCC Fifth Assessment Report 2014; IPCC Guidelines for National Greenhouse Gas Inventories 2006; Vita Health Products Inc. 2019

Summary

GHG emissions are long-term in duration, of continuous frequency, and irreversible upon Project decommissioning. The facility is expected to have a negligible adverse contribution to GHG emissions in the RAA and the province.

7.1.3 Human Health

The operations at the facility utilize some hazardous materials in the production process and consequently generate approximately 40,535 L/year of hazardous waste. A list of chemicals used at the Project site is included in Appendix J and includes alcohol, soaps, cleaners, inks, paints, hydraulic fluid, and antifreeze, all of which may represent potential hazards to the employees working with and around these chemicals.

Health and safety information for the site was provided by Vita Health (See Section 3.3.9). Currently, SDS information is available for all products and all employees are oriented to the health and safety program including general rules, reporting unsafe conditions and incidents, fire, evacuation, first aid procedures, and PPE, among other procedures. A joint Health and Safety Committee also meets every month to monitor and improve health and safety activities and is composed of management and manufacturing staff.

Standard operating procedures for all work tasks are available online through the Vita Health data management system (Solabs) and reflect the hazards of each specialized process in the manufacturing facility including the specific procedures for safely working with chemicals and other potential hazardous materials and processes.

The facility is also divided into 6 areas that each undergo a safety audit 3x/year.

Summary

Based on the Health Canada regulation of the Project site and the extensive health and safety program currently in place, including internal training, regular safety auditing, and the recorded reduction of lost day incidents (13 in 2013 to 2 in 2017) the potential adverse residual effects on human health are expected to be restricted to the Project site, typically negligible to high (in extreme cases) in magnitude, multiple irregular in frequency, short- to long-term in duration, and typically reversible except in extreme cases.

7.1.4 Infrastructure and Services

The Vita Health site's adverse effect on services (i.e., water, power, wastewater treatment, natural gas, solid waste disposal and recycling) is considered negligible, short term, and continuous, with no substantial changes proposed for continued facility operation. The services are in place with sufficient capacity to accommodate the demands of the operations without further changes to the supporting infrastructure. Use of municipal services (i.e., water, power, natural gas) is expected to continue as is with no change for continued operation.

Traffic flow rates for the City of Winnipeg (2015) and information provided by Vita Health on traffic movements from vehicles and trucks traveling to and from the Project site (i.e., number of employee vehicles and truck deliveries) was reviewed. The annual average daily traffic on major roads in the vicinity of the Project site ranges from 21,100 vehicles/day to a maximum of 28,200 vehicles/day along Dugald Road (City of Winnipeg 2015). The designated truck routes surrounding the Project site have accommodated traffic generated at the Project site (approximately 373 personal vehicles and 7-13 delivery trucks). The existing traffic flow volumes can be accommodated within the design capacity of the existing transportation network. The traffic loads associated with facility operations comprise 3-4% of area traffic and are considered to be low in magnitude.

Solid waste is currently collected by Waste Management of Canada for disposal at the City of Winnipeg Brady Road Resource Management Center 2 times/week. Recyclables are collected for proper disposal by Haul-Rite Environmental on a monthly basis. Metals are collected by Orloff Scrap metal on an as-needed basis for recycling. Hazardous wastes are collected approximately bi-weekly for processing and disposal by Miller Environmental. These waste streams are currently within the capacity of the service providers and are expected to continue with no substantial change for continued operation. A waste management plan for recovered manufacturing dust from the dust collection system is under development by Vita Health, as this dust may include potentially active pharmaceutical or nutraceutical ingredients. Once the management plan is in place, disposal methods will be adjusted if required to mitigate environmental effects of disposal.

Currently, the Vita Health facility discharges process wastewater to the municipal sewer system in accordance with their Overstrength Discharge Permit (#VITA-2016). The permit authorizes elevated discharges of N, P, TSS, and BOD. A City of Winnipeg test report in 2010 indicated overstrength concentrations of Zinc and Phosphorus in the wastewater. Vita Health has since implemented a wipe-down procedure prior to wash down and monitored wastewater discharge for 6 months. No overstrength readings were observed for Zinc. Recently, a qualifying Phosphate-free cleaning detergent (Oxonia® cleaner) has also been implemented and is expected to reduce phosphorous loading. No pre-treatment is used prior to discharge. The recent implementation of these mitigation measures is expected to reduce the impact of the process wastewater on municipal services.

Summary

The potential adverse residual effects on infrastructure and services are expected to be negligible in the RAA, short-term in duration, continuous in frequency over the term of operation, and reversible upon Project decommissioning.

7.1.5 Summary of Mitigation Measures

Mitigation measures to be employed to prevent or mitigate adverse effects identified in the sections above include the following:

- Dust emissions are contained and controlled within the manufacturing area of the building through the use of industrial dust collection equipment in the compression and compounding areas. Filters from these areas are disposed of to the municipal landfill and are regularly replaced. A management plan is currently being explored by Vita Health for the disposal of pharmaceutical dust and associated filters to the hazardous waste stream.

- Emissions from the use of argon and acetylene gas in the maintenance shop fume hood are contained and controlled through the use of filtration equipment. Filters from these areas are disposed of to the municipal landfill and are regularly replaced by a third-party contractor.

- Hazardous materials are secured in appropriate storage cabinets and prepared under fume hoods in the manufacturing and packaging areas; containers used for storing chemicals are labelled, including product name, hazard information and SDS reference.

- Chemical emissions from the laboratory and materials testing fume hoods are controlled through the implementation of standard operating procedures for decanting and storing volatile materials.

- Chemical disposal follows the SDS disposal methods for the chemical being disposed.

- Hazardous waste containers and liquid hazardous wastes generated at the facility are stored in a designated, locked, hazardous waste room (and second floor satellite room) and are collected bi-weekly by a third-party licensed hazardous waste processor (Miller Environmental).

- Solid hazardous waste (used batteries from the electric forklift) are stored in the forklift charging area on the warehouse floor and are collected on an as-needed basis by Industrial Trucking Service Ltd. for proper disposal. Other solid waste (pharmaceutical dust and associated filters) is currently being disposed of to landfill. A management plan is currently underway to dispose of this pharmaceutical waste stream to hazardous waste.

- Use of a phosphate-free cleaner (Oxonia ®) has been implemented to reduce phosphorus discharges to the municipal sewer system from equipment cleaning activities. A wipe-down procedure was also recently implemented to reduce occurrences of other contaminants. Wastewater is monitored by the City of Winnipeg and effluent treatment is currently in place for process water sewer discharges in accordance with the City of Winnipeg Overstrength Discharge Permit #VITA-2016.

- The Project site is regularly inspected by Vita Health personnel for loose debris and waste to maintain a clean site.

- Mixed recyclables and paper materials are collected by third party service providers for proper recycling on a monthly basis.

- Scrap metal shavings and metal waste generated in the maintenance shop are stored in secure bins and removed by a third-party recycling service provider (Orloff Scrap Metals) on an as needed basis.

- Vehicles for shipping and receiving are provided by a third party and are therefore maintained at off-site locations. Vehicle idling in the shipping and receiving areas are kept to a minimum. Maintenance of the Vita Health 5-tonne truck is also conducted off-site.

- Product (pharmaceutical and nutraceutical) destructions are sent to Stericycle for proper disposal on an as-needed basis.

- An extensive Health and Safety program is implemented at the Project site and includes but is not limited to: orientation and training; a hearing conservation program; machine guarding program; fire safety plan; a chemical and biological hazard control plan; lift truck operations; safe laboratory practices; emergency response plan; and harassment and violence protection.

7.2 SUMMARY OF RESIDUAL EFFECTS CHARACTERIZATION

A summary of residual environmental effects characterization is found in Table 7-2. Positive effects are not addressed, only adverse effects are characterized.

Table 7-2 Summary of Residual Environmental Effects

Project Effects	Residual Environmental Effects Characterization						
	Direction	Magnitude	Geographical Extent	Duration	Frequency	Reversibility	Ecological and Socio-economic Context
Air Quality							
Facility/operational emissions	A	N	RAA	L	C	R	D
Greenhouse Gas Emissions							
Facility/operational emissions	A	N	RAA	L	C	IR	D
Human Health							
Hazardous materials safety	A	N-H	PS	S-L	MI	R-IR	D
Infrastructure and Services							
Traffic level impacts	A	N	RAA	M	C	R	D
Waste disposal and recycling	A	N	RAA	M	C	R	D

KEY
See Table 4-3 for detailed definitions
KEY
Direction
P Positive
A Adverse
N Neutral
Magnitude
N Negligible
L Low
M Moderate
H High

Geographical Extent
PS Project Site
LAA Local Assessment Area
RAA Regional Assessment Area
Duration
S Short-term
M Medium-term
L Long-term
Frequency
S Single event
MI Multiple irregular event
MR Multiple regular event
C Continuous

Reversibility
R Reversible
IR Irreversible
Ecological/Socio-Economic Context:
U Undisturbed
D Disturbed

N/A Not applicable

7.3 ACCIDENTS AND MALFUNCTIONS

The effects of accidents and malfunctions for the Project are primarily related to the potential for mechanical equipment failure, hazardous material spills, and transportation accidents. Vita Health has a Workplace Health and Safety program, so employees are adequately trained for the operations of the facility. The presence of prevention measures and procedures for managing adverse effects associated with accidents and malfunctions should minimize the effects in the event of an emergency situation. Standard operating procedures are presently developed for high risk tasks which further reduces the likelihood of such events occurring.

The following sections provide additional details on the potential effects from accidents and malfunctions and the measures in place to prevent accidents and malfunctions.

7.3.1 Fire/Explosion

During operation, there exists potential for fires at the Project site involving mechanical equipment (e.g., dust collectors) and combustible liquids. Combustible liquids are stored in designated flammable materials storage cabinets and are only prepared in the ventilated mixing areas to reduce fire and explosion risks. Potential effects related to fires include: harm to on-site personnel, equipment, and the potential release of contaminants and hazardous materials. The facility maintains a fire evacuation procedure and a fire suppression system (sprinklers). Necessary precautions are taken to prevent fire hazards at the Project site including practicing good housekeeping and maintenance, limiting the quantity of combustible materials on-site, and emptying dust collectors daily.

7.3.2 Spills

During operation, there is potential for environmental and human health effects due to accidental spills of hazardous materials. Spill-related effects on air quality, and human health and safety are possible. There are 3 spill kits are on-site for use at the facility. The hazardous waste drums are stored on spill containment pallets and checked daily to confirm spills have not occurred. Any spills if they were to occur, would be contained within the Project site through the use of the designated hazardous waste storage bin and through the use of spill kits and spill containment pallets. All employees are trained in WHMIS (Workplace Hazardous Materials Information System) and SDS information is available for all employees working near hazardous chemicals to reduce the potential of accidental spills and impacts on human health.

7.3.3 Transportation Accidents

Transportation accidents can result in the release of vehicle fluids to the environment (i.e., diesel, gasoline, oils, etc.) and the materials the vehicles were transporting. Effects related to such releases can include air, groundwater, and soil quality effects with potential for subsequent effects on the environment and human health.

Traffic at the Project site (i.e., deliveries and pickups) operates at slow speeds to minimize the potential for on-site transportation accidents. Vita Health also utilizes qualified staff or transportation companies to transport materials and final products to and from the site to further minimize the potential for transportation risks. Miller Environmental is contracted at the Project site to pick up hazardous wastes. They are licensed hazardous waste processors and are therefore responsible for proper training of their transport operators.

7.3.4 Prevention Measures

Measures to prevent adverse effects associated with fire/explosion, spills and transportation accidents are as follows:

- Potentially hazardous materials are stored at dedicated areas and handled and labelled in accordance with applicable regulatory requirements.
- Hazardous materials are transported in accordance with the *Dangerous Goods Handling and Transportation Act*. Product use is carried out per product instructions and SDS requirements.
- Fire extinguishers are available on-site and are maintained to manufacturer's standards. Equipment is checked on a routine basis to confirm their proper working order in accordance with municipal fire safety regulations. The facility also maintains a fire suppression system (sprinkler).
- Absorbent material spill kits are available for immediate cleanup of spills and leaks by trained personnel.
- Regular inspections of the HVAC systems are undertaken on a routine basis. Repairs and maintenance are undertaken by trained personnel.
- Vita Health maintains a Safety and Health Management System which includes policies related to emergency preparedness, inspections, workplace hazardous materials information system (WHMIS) and incident reporting. All employees are trained under this program as part of their orientation to the facility.
- Vita Health has recently completed an Environmental Compliance Assessment Report and has established standard operating procedures to reduce risks to human/worker health and the environment.

8.0 SUMMARY CONCLUSIONS

Stantec has prepared this environmental report in support of an EAP for Vita Health's pharmaceutical manufacturing facility for continued operation of the same.

Vita Health is employing mitigation and preventative measures to minimize potential adverse effects associated with their operations to the environment.

The site is presently zoned for manufacturing in an established industrial park; site operations comply with this zoning. The land use is consistent with activities that have been present in the area over the past 36 years.

The number of vehicles travelling to and from the site by employees and inbound and outbound truck traffic using designated roadways surrounding the Project site are not expected to exceed the infrastructure capacity at current service levels.

There are no substantial air or noise emissions associated with the current operations at the Project site. Sanitary wastewater generated by regular operations is accommodated by the City of Winnipeg municipal treatment system.

The potential for adverse effects from accidents and malfunctions at the Project site would be primarily related to fire/explosion, spills, and transportation accidents. The current prevention systems, mitigation measures, and standard operating procedures reduce the potential likelihood/severity of these events.

On the basis of the desktop studies undertaken, site observations and information available to date as presented in this report, the Project is not expected to create significant adverse effects to the biophysical and socio-economic environment and is expected to yield continued economic benefits to the region.

9.0 REFERENCES

9.1 LITERATURE CITED

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9.2 PERSONAL COMMUNICATIONS

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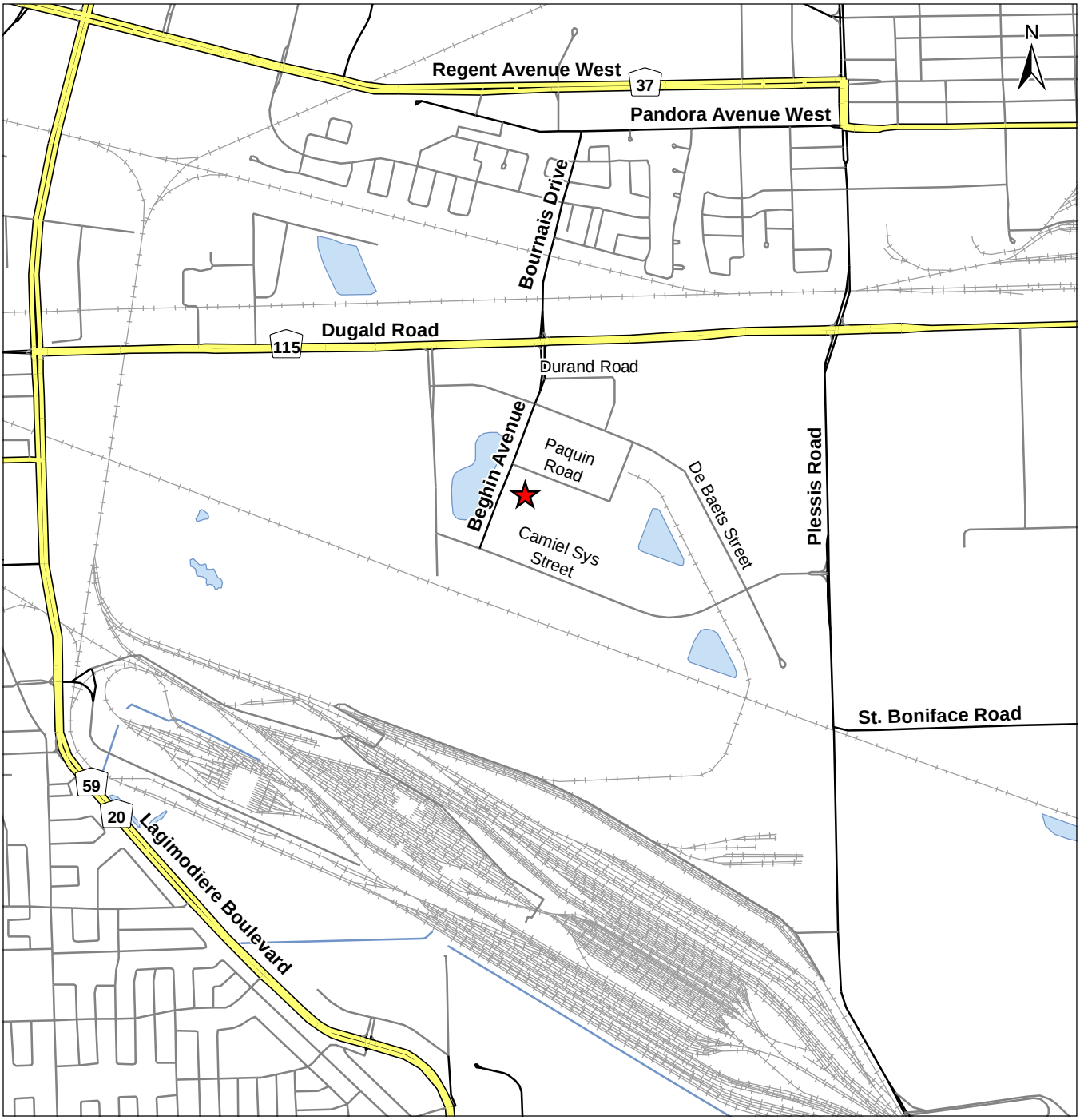
Appendix A Figures

G:_GIS_Project_Folder\111474531_VitaHealth\ArcMaps\Site_Location_Plan_20190124.mxd Revised: 2019-01-24 By: ACampigotto



Legend

- Site Location
- Major Road
- Minor Road
- Local Road
- Railway
- Waterbody

0 250 500 Metres

1:25,000 (at original document size of 8.5x11)

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada

Stantec

Project Location
150 Beghin Avenue,
Winnipeg, MB

111474531

Prepared by AC on 2019-01-24
Technical Review by JT on 2019-01-24

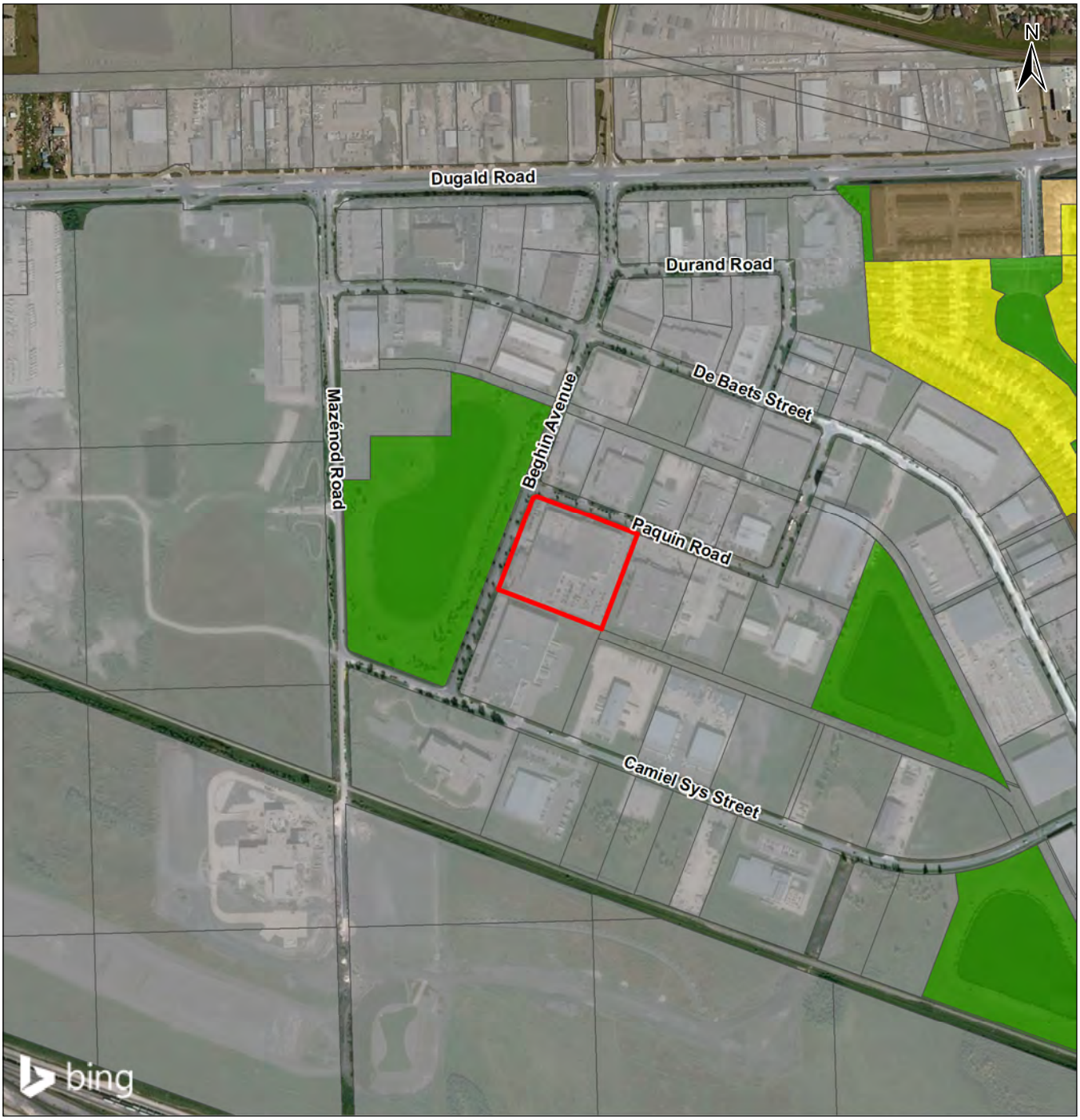
Client/Project
VITA HEALTH
Vita Health Environment Act Proposal

Figure No.
1

Title
Location Plan

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

G:_GIS_Project_Folder\111474631_VitaHealth\ArcMaps\Legal_Plan_20190124.mxd Revised: 2019-01-28 By: ACampigotto



Legend

- Plant Site
- Parcels

Zoning

- Manufacturing (M1-M3 and MMU)
- Parks and Recreation (PR)
- Residential Single Family (R1)
- Residential Two Family (R2)
- Residential Multiple Family (RMF)

0 100 200 Metres

1:10,000 (at original document size of 8.5x11)

Stantec

Project Location
150 Beghin Avenue,
Winnipeg, MB

111474531

Prepared by AC on 2019-01-24
Technical Review by JT on 2019-01-24

Client/Project
VITA HEALTH
Vita Health Environment Act Proposal

Figure No.
2

Title
Legal Plan

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the City of Winnipeg
3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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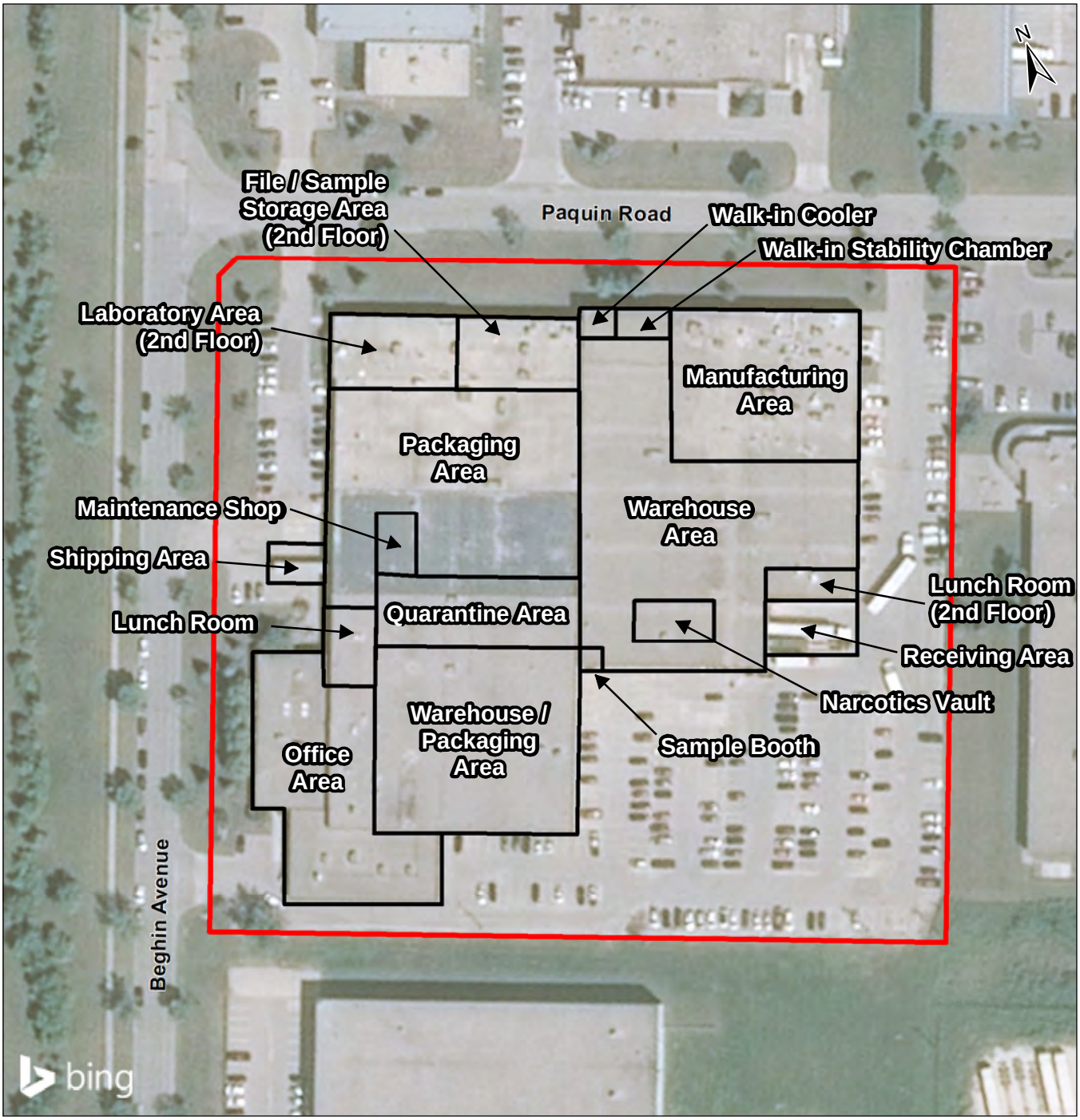
G:_GIS_Project_Folder\111474531_VitaHealth\ArcMaps\Site_Plan_20190501.mxd Revised: 2019-05-01 By: ACampigotto



Legend

Property Boundary

0 10 20
Metres
1:1,500 (at original document size of 8.5x11)

Stantec

Project Location
150 Beghin Avenue,
Winnipeg, MB

111474531

Prepared by AC on 2019-05-01
Technical Review by JT on 2019-05-01

Client/Project
VITA HEALTH
Vita Health Environment Act Proposal

Figure No.
3

Title
Site Plan

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba
3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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G:_GIS_Project_Folder\111474531_VitaHealth\ArcMaps\LAA_20190130.mxd Revised: 2019-01-30 By: ACampigotto

Legend

- Site Location
- Local Assessment Area (1 km Radius)
- St. Boniface Industrial Park

Zoning

- Manufacturing (M1-M3 and MMU)
- Parks and Recreation (PR)
- Residential Single Family (R1)
- Residential Two Family (R2)
- Residential Multiple Family (RMF)

0 100 200 Metres

1:12,000 (at original document size of 8.5x11)

Stantec

Project Location
150 Beghin Avenue,
Winnipeg, MB

111474531

Prepared by AC on 2019-01-30
Technical Review by JT on 2019-01-30

Client/Project
VITA HEALTH
Vita Health Environment Act Proposal

Figure No.
4

Title
Local Assessment Area
(1 km Radius)

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the City of Winnipeg
3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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G:\...GIS_Project_Folder\111474531_VitaHealth\ArcMaps\RAA_20190130.mxd Revised: 2019-01-30 By: ACampigotto

Legend

- Site Location
- Regional Assessment Area (2 km Radius)
- St. Boniface Industrial Park

0 200 400 Metres

1:25,000 (at original document size of 8.5x11)

Stantec

Project Location
150 Beghin Avenue,
Winnipeg, MB

111474531

Prepared by AC on 2019-01-30
Technical Review by JT on 2019-01-30

Client/Project
VITA HEALTH
Vita Health Environment Act Proposal

Figure No.
5

Title
Regional Assessment Area
(2 km Radius)

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the City of Winnipeg
3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Appendix B Photos

Photo B-1: Vita Health manufacturing facility at 150 Beghin Avenue, facing east.

Photo B-2: Vita Health building structure from Paquin Road, facing south.

Photo B-3: Flammable materials storage cabinets in the warehouse area of the facility.

G:_GIS_Project_Folder\111474531_VitaHealthInDesign\Photo\Appendix_20190620.indd

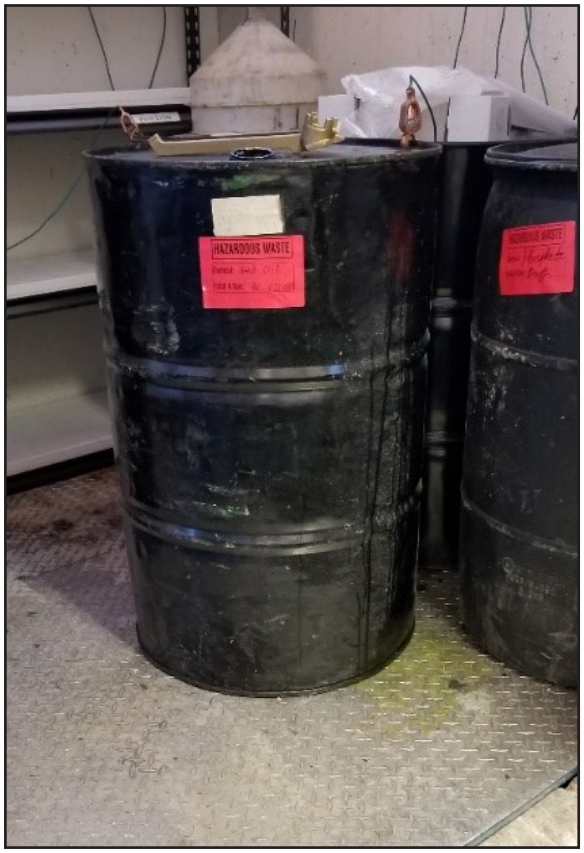

Photo B-4: Hazardous waste storage room, located in the receiving area, showing berm and metal flooring.

Photo B-5: Example of a chemical spill kit and fire extinguisher, located in the warehouse area.

G:_GIS_Project_Folder\11147431_VitaHealth\InDesign\Photo Appendix_20190620.indd

Photo B-6: Cardboard bailer, located in the warehouse area.

Photo B-7: Electrical panels on-site, located in the warehouse area.

G:_GIS_Project_Folder\11147431_VitaHealthInDesign\Photo\Appendix_20190620.indd

Photo B-8: Forklift battery charging station, located in the warehouse area.

Photo B-9: Purified water room, located in the manufacturing area, showing reverse osmosis system.

Photo B-10: Manufacturing testing area, showing friability and dissolvability testing units.

G:_GIS_Project_Folder\11147431_ViiaHealthInDesign\PhotoAppendix_20190620.indd

Photo B-11: Floor drains in the equipment cleaning rooms of the manufacturing area.

Photo B-12: Example of automated packaging line, located in the packaging area.

Photo B-13: Maintenance shop, located adjacent to the packaging area, showing compressed gas cylinders and scrap metal bin.

G:_GIS_Project_Folder\111474531_ViiaHealthInDesign\Photo\Appendix_20190620.indd

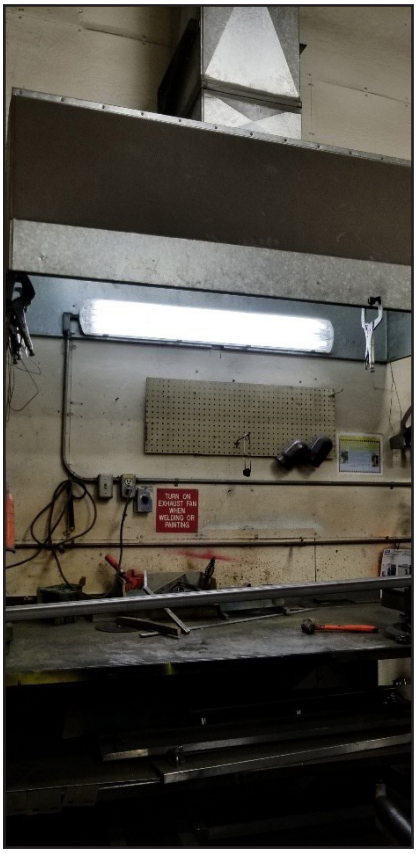

Photo B-14: Maintenance shop fume hood and work bench for welding.

Photo B-15: Laboratory bench, showing various laboratory equipment.

G:_GIS_Project_Folder\111447431_ViiaHealth\InDesign\PhotoAppendix_20190620.indd

Photo B-16: Dry reagent storage area in the laboratory.

Photo B-17: Dust collector in the mezzanine, showing fiber drum collection system.

G:_GIS_Project_Folder\11147431_VitaHealth\InDesign\PhotoAppendix_20190620.indd

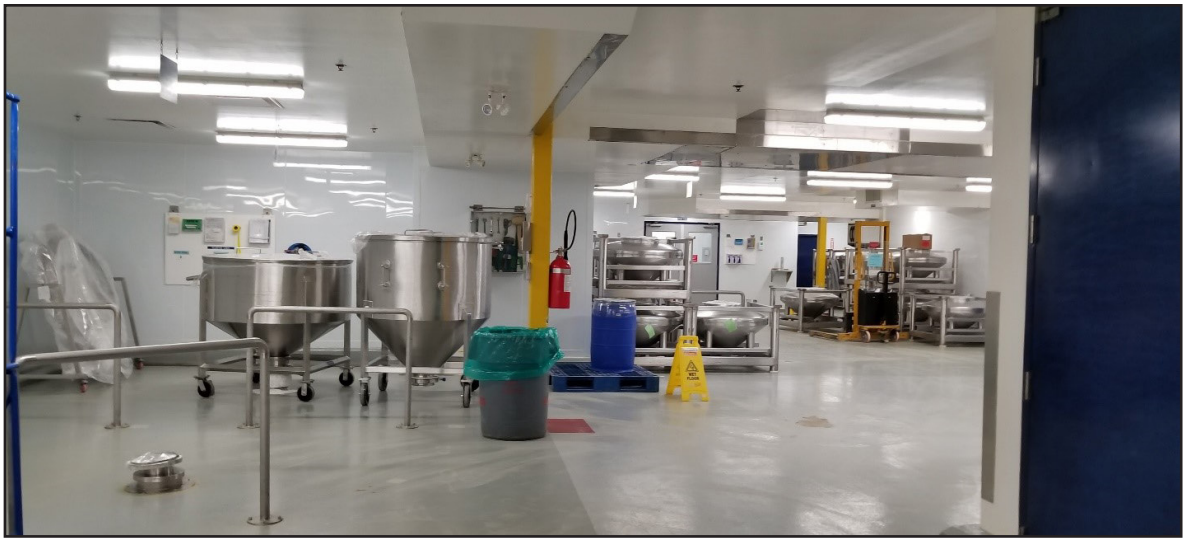

Photo B-18: Mezzanine above the manufacturing area, showing funnels and gravity feed attachments.

Photo B-19: Shipping area on the west side of the facility, showing the 4 bays and parking areas.

Photo B-20: Scrap metal container, located adjacent to the receiving area on the east side of the plant.

G:_GIS_Project_Folder\111474531_ViiaHealthInDesign\PhotoAppendix_20190620.indd

Photo B-21: Recycling dumpster, located adjacent to the receiving area on the east side of the plant.

Photo B-22: Regular waste collection bin, located in the receiving area on the east side of the plant.

G:_GIS_Project_Folder\111474531_VitaHealth\InDesign\PhotoAppendix_20190620.indd

Photo B-23: Ground level transformer (PCB free) located on the east side of the plant.

Photo B-24: Outdoor dust collection system, located in a secured area on the east side of the plant.

Photo B-25: Large mixer in the compounding section of the manufacturing area.

G:_GIS_Project_Folder\111474531_VitaHealthInDesign\Photo\Appendix_20190620.indd

Photo B-26: Automated pressing machine in the compression section of the manufacturing area.

Photo B-27: Parts drying area showing compressed air hoses.

Photo B-28: Bulk cleaners used in the equipment washing rooms of the manufacturing area.

G:_GIS_Project_Folder\11147531_VitaHealth\InDesign\PhotoAppendix_20190620.indd

Photo B-29: Fumehood used for parts cleaning, located in the manufacturing testing area.

Photo B-30: Automated packaging line in the packaging area.

G:_GIS_Project_Folder\111474531_VitaHealthInDesign\PhotoAppendix_20190620.indd

Photo B-31: Heat tunnel in a cartooning line used for shrink wrapping in the packaging area.

Photo B-32: Wastewater sewer connection in the plant, on the north side of the building, in the warehouse area.

G:_GIS_Project_Folder\11147531_ViaHealth\InDesign\PhotoAppendix_20190620.indd

Photo B-33: Solid waste bin, located in the packaging area of the plant.

Photo B-34: Scrap metal disposal bin, located in the maintenance shop in the packaging area of the plant.

G:_GIS_Project_Folder\11147431_ViiaHealth\InDesign\Photo Appendix_20190620.indd

Photo B-35: Portable dust collector, located in the manufacturing area.

G:_GIS_Project_Folder\111474531_VitaHealthInDesign\PhotoAppendix_20190620.indd

Appendix C CERTIFICATE OF TITLE

STATUS OF TITLE

Title Number **1603780/1**
Title Status **Accepted**
Client File 111474531

The Property Registry
A Service Provider for the Province of Manitoba

1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

VITA HEALTH PRODUCTS INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON IN THE FOLLOWING DESCRIBED LAND:

LOTS 1 AND 2 PLAN 16587 WLTO
IN LOTS 197 AND 200 ROMAN CATHOLIC MISSION PROPERTY

The land in this title is, unless the contrary is expressly declared, deemed to be subject to the reservations and restrictions set out in section 58 of *The Real Property Act.*

2. ACTIVE INSTRUMENTS

Instrument Type: **Caveat**
Registration Number: **82-36037/1**
Instrument Status: **Accepted**

Registration Date: 1982-06-02
From/By: THE CITY OF WINNIPEG
To:

Amount:
Notes: No notes
Description: No description

Instrument Type: **Caveat**
Registration Number: **82-49451/1**
Instrument Status: **Accepted**

Registration Date: 1982-07-22
From/By: MAN. HYDRO ELECTRIC BOARD & MAN. TELEPHONE SYSTEM
To:

Amount:
Notes: No notes
Description: No description

Instrument Type:	**Caveat**
Registration Number:	**1622504/1**
Instrument Status:	**Accepted**
Registration Date:	1992-12-04
From/By:	THE CITY OF WINNIPEG
To:	
Amount:	
Notes:	No notes
Description:	NON-SUBDIVISION AGREEMENT

Instrument Type:	**Caveat**
Registration Number:	**2480207/1**
Instrument Status:	**Accepted**
Registration Date:	2000-04-18
From/By:	THE CITY OF WINNIPEG
To:	DIANE MCMENEMY PAPST, AS AGENT
Amount:	
Notes:	No notes
Description:	PURCHASE AND SALE AGREEMENT

Instrument Type:	**Caveat**
Registration Number:	**2480208/1**
Instrument Status:	**Accepted**
Registration Date:	2000-04-18
From/By:	THE CITY OF WINNIPEG
To:	DIANE MCMENEMY PAPST, AS AGENT
Amount:	
Notes:	No notes
Description:	PURCHASE AND SALE AGREEMENT

3. ADDRESSES FOR SERVICE

VITA HEALTH PRODUCTS INC.
150 BEGHIN AVE
WINNIPEG, MB
R2J 3W2

4. TITLE NOTES

No title notes

5. LAND TITLES DISTRICT

Winnipeg

6. DUPLICATE TITLE INFORMATION

Duplicate not produced

7. FROM TITLE NUMBERS

1499489/1 All

8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS

No real property application or grant information

9. ORIGINATING INSTRUMENTS

Instrument Type:	**Request To Issue Title**
Registration Number:	**2317192/1**
Registration Date:	1998-10-27
From/By:	VITA HEALTH COMPANY (1985) LTD.
To:	VITA HEALTH PRODUCTS INC.
Amount:	

10. LAND INDEX

Lot 1 Plan 16587
IN RL 197 & 200 RCMP

Lot 2 Plan 16587
IN RL 197 & 200 RCMP

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM OF TITLE NUMBER 1603780/1

STATUS OF TITLE

Title Number **1718961/1**
Title Status **Accepted**
Client File 111474531

The Property Registry
A Service Provider for the Province of Manitoba

1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

VITA HEALTH PRODUCTS INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON, IN THE FOLLOWING DESCRIBED LAND:

FIRSTLY:
PARCELS C AND D PLAN 29058 WLTO
IN LOTS 197 AND 200 ROMAN CATHOLIC MISSION PROPERTY

SECONDLY:
PARCEL A PLAN 38342 WLTO
IN LOTS 197 AND 200 ROMAN CATHOLIC MISSION PROPERTY

The land in this title is, unless the contrary is expressly declared, deemed to be subject to the reservations and restrictions set out in section 58 of *The Real Property Act.*

2. ACTIVE INSTRUMENTS

Instrument Type:	**Caveat**
Registration Number:	**247942/1**
Instrument Status:	**Accepted**
Registration Date:	1977-10-07
From/By:	MANITOBA HYDRO ELECTRIC BD & MANITOBA TELEPHONE SYSTEM
To:	
Amount:	
Notes:	AFF: FIRSTLY
Description:	No description

Instrument Type:	**Caveat**
Registration Number:	**2480207/1**
Instrument Status:	**Accepted**
Registration Date:	2000-04-18
From/By:	THE CITY OF WINNIPEG
To:	DIANE MCMENEMY PAPST, AS AGENT
Amount:	
Notes:	No notes
Description:	PURCHASE AND SALE AGREEMENT

Instrument Type:	**Caveat**
Registration Number:	**2480208/1**
Instrument Status:	**Accepted**
Registration Date:	2000-04-18
From/By:	THE CITY OF WINNIPEG
To:	DIANE MCMENEMY PAPST, AS AGENT
Amount:	
Notes:	No notes
Description:	PURCHASE AND SALE AGREEMENT

Instrument Type:	**Caveat**
Registration Number:	**2660860/1**
Instrument Status:	**Accepted**
Registration Date:	2001-11-16
From/By:	THE MANITOBA HYDRO-ELECTRIC BOARD
To:	
Amount:	
Notes:	ELY 4M PERP PCL A
Description:	EASEMENT - RIGHT OF WAY

3. ADDRESSES FOR SERVICE

VITA HEALTH PRODUCTS INC.
150 BEGHIN AVENUE
WINNIPEG MB
R2J 3W2

4. TITLE NOTES

No title notes

5. LAND TITLES DISTRICT

Winnipeg

6. DUPLICATE TITLE INFORMATION

Duplicate not produced

7. FROM TITLE NUMBERS

1277940/1	All
1416835/1	Partial

8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS

No real property application or grant information

9. ORIGINATING INSTRUMENTS

Instrument Type:	**Transfer Of Land**
Registration Number:	**2480206/1**
Registration Date:	2000-04-18
From/By:	THE CITY OF WINNIPEG
To:	VITA HEALTH PRODUCTS INC.
Consideration:	$1.00

10. LAND INDEX

Lot C Plan 29058

Lot D Plan 29058

Lot A Plan 38342

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM OF TITLE NUMBER 1718961/1

Appendix D FEDERAL PERMITS AND LICENCES

Health Canada / Santé Canada

Licence No. - No de licence

2019/6544

LICENCE
Pursuant to the provisions of the Controlled Drugs and Substances Act and its Regulations this licence is issued to:

LICENCE
Conformément aux dispositions de la Loi réglementant certaines drogues et autres substances et ses Règlements, la présente licence est délivrée à:

VITA HEALTH PRODUCTS INC.
150 Beghin Avenue
Winnipeg MB R2J 3W2

as a licensed dealer at the premises indicated above, for the conduct of the following activities:
[x] Possession
[x] Production
[x] Packaging
[x] Sale
[x] Sending, Transportation and Delivery

à titre de distributeur autorisé au lieu indiqué ci-haut, pour la conduite des activités suivantes:
[ ] Possession
[ ] Production
[ ] Emballage
[ ] Vente
[ ] Expédition, transport et livraison

for the following controlled substances including their salts as listed in the Regulations:

pour les substances contrôlées suivantes incluant leurs sels telles que listées dans les Règlements:

[1] Codeine
Codeine N-oxide
Codeine methyl ether
Acetylcodeine
Methcathinone

[1]Report of any unusual orders involving these substances must be made to Health Canada within 72 hours of becoming aware of such orders, in a manner and format specified by Health Canada.

Appendix A
List of controlled substances manufactured and/or packaged

Assistant Manager or Manager, Authorizations Division,
Office of Controlled Substances, CSD/ORT
for and on behalf of the Minister of Health
Effective date of the licence (YYYY-MM-DD):

Gestionnaire associé ou Gestionnaire, Division des autorisations,
Bureau des substances contrôlées, DSC/EIMO
pour le Ministre de la Santé
Date de prise d'effet de la licence (AAAA-MM-JJ):

2019-01-01

This licence expires (YYYY-MM-DD):

La présente licence expire (AAAA-MM-JJ):

2019-12-31

This licence is restricted, in addition to all other applicable conditions of licensure, in that the controlled substance inventory cannot exceed the amount allowed by the security level indicated below:

Cette licence est restreinte, en plus des autres conditions qui s'appliquent, du fait que l'inventaire des substances contrôlées ne peut pas dépasser le maximum autorisé par le niveau de sécurité apparaissant plus bas:

4 + 10

Canada

Health Canada / Santé Canada

Health Product Compliance Directorate /
Direction de la conformité des produits de santé
13th Floor, Jeanne-Mance Building /
13e étage, Édifice Jeanne-Mance
200 Eglantine Driveway / 200, promenade Eglantine
A.L. 1913B / I.A. 1913B
Ottawa, ON K1A 0K9

To: **Drug Establishment Licence (DEL) Holder**

The enclosed Establishment Licence, issued by the Health Product Compliance Directorate, is valid from the date of issuance. The licence will remain valid as long as an application for annual review is submitted before April 1st of each year.

The licence indicates the activities which may be carried out, at the building(s) listed, for specific categories of drugs. If the licence indicates an activity of Import, a foreign building annex will be attached with a compliance expiry date. This foreign building annex lists the buildings which are in compliance with Canadian Good Manufacturing Practices (GMP). The foreign buildings for which the GMP evidence is still under review (or the Certificates of Compliance from the Regulatory Authorities are awaited) are not listed/updated on your licence at this time. Once the review has been completed, you will receive a revised foreign building annex. Please be aware that you cannot import products from any building which does not appear on your licence.

If there are any concerns with the licence, please contact DEL_questions_LEPPP@hc-sc.gc.ca

Aux: **Détenteur de licence d'établissement de produits pharmaceutiques (LEPP)**

La licence d'établissement ci-jointe, délivrée par la Direction de la conformité des produits de santé, est valide à compter de la date de délivrance et demeurera valide pourvu qu'une demande d'examen annuel soit présentée avant le 1er avril de chaque année.

Cette licence indique les activités qui peuvent être menées dans le ou les bâtiment(s) mentionné(s) pour des catégories particulières de médicaments. Si la licence fait mention d'une activité d'importation, une annexe sur les bâtiments étrangers y sera jointe ainsi que la date d'expiration en lien avec la conformité. Cette annexe fournit la liste des bâtiments qui se conforment aux Bonnes pratiques de fabrication (BPF) en vigueur au Canada. Les bâtiments étrangers pour lesquels les preuves de conformité aux BPF n'ont pas été évaluées (ou pour lesquels on attend un certificat de conformité de l'autorité réglementaire) ne figurent pas ou n'ont pas encore été mis à jour sur votre licence. Dès que l'évaluation sera complétée, on vous transmettra une annexe des bâtiments étrangers révisée. Veuillez noter que vous ne pouvez pas importer des produits d'un bâtiment qui n'apparaît pas sur votre licence.

Si vous avez des questions concernant la licence, veuillez communiquer avec DEL_questions_LEPPP@hc-sc.gc.ca

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Vita Health Products Inc.

150 Beghin Avenue
Winnipeg MB R2J 3W2

This licence is issued in accordance with the *Food and Drugs Act and Regulations* (Division 1A) for the following activities /
Cette licence est délivrée conformément à la *Loi et au Règlement sur les aliments et drogues* (titre 1A) pour les activités et les catégories de drogues suivants :

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	
Pharmaceutical / Pharmaceutique	Package / Emballer	X	
Pharmaceutical / Pharmaceutique	Label / Étiqueter	X	
Active Pharmaceutical Ingredients / Ingrédient actif pharmaceutique	Import / Importer	X	
Pharmaceutical / Pharmaceutique	Import / Importer	X	
Pharmaceutical / Pharmaceutique	Distribute / Distribuer	X	

1 - if applicable / s'il y a lieu
«Biological» includes drugs listed in Schedule D to the Act, other than vaccines or whole blood and its components / « Biologique » inclut les drogues visée à l'annexe D de la Loi, autre que les vaccins ou le sang total et ses composants
«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Distribute» as set out in paragraph C 01 A 003 (a) and/or (b) / « Distribuer » à titre de distribuer au sens de l'alinéa C 01A 003 (a) et/ou (b)
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

This licence contains the following additional annex(es) / Cette licence contient les annexes suivantes :

Terms and Conditions / Modalités et conditions
Foreign Building Annex / Annexe concernant les bâtiments étrangers
Warehouse Annex / Annexe des entrepôts
Active Pharmaceutical Ingredient Foreign Building Annex / Annexe concernant les bâtiments étrangers d'ingrédients pharmaceutiques actifs

Date of last GMP inspection / Date de la dernière inspection BPF : 2016-09-27

MINISTER OF HEALTH / MINISTRE DE LA SANTÉ	Countersigned/ Director General, Regulatory Operations and Regions Branch or designated official Contresigné par / Directeur général, Direction générale des operations réglementaires et des régions ou responsable désigné
Establishment Licence Licence d'établissement Health Canada / Santé Canada Canada	Kimby N. Barton Kimby Barton Issued on / Émise le : 2018-03-20

This licence is the property of the Regulatory Operations and Regions Branch and must be returned upon demand.
Cette licence appartient à la Direction générale des opérations réglementaires et des régions et doit être retournée sur demande.

Canada

Establishment Licence | **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Terms and Conditions / Modalités et conditions

Pursuant to the *Food and Drug Regulations*, the Minister has set out terms and conditions in this establishment licence. They are valid until such time as a revised Establishment Licence is issued, unless otherwise indicated. Any applicable terms and conditions associated to foreign buildings are presented in the Foreign Building Annex. / En vertu du *Règlement sur les aliments et drogues*, le Ministre a assorti une licence d'établissement de modalités et de conditions. Ils sont valides jusqu'à ce qu'une licence d'établissement révisée soit émise, sauf si indiqué autrement. Toutes modalités et conditions associées aux bâtiments étrangers sont présentées dans l'annexe concernant les bâtiments étrangers.

Conditions

1) Raw material, dosage form, finished drug product and stability testing activities are not authorised. All testing for raw materials used in drug products, finished drug products and stability samples must be conducted by a third party Health Canada approved GMP compliant laboratory. Water testing is authorised, provided that a third party Health Canada approved GMP compliant laboratory conducts confirmatory microbiological testing of water.

1) Les matières premières, les formes posologiques, les produits finis et les activités liées aux essais de stabilité ne sont pas autorisés. Tout essai sur les matières premières utilisées dans les drogues, les produits finis ou les échantillons des études de stabilité doit être dirigé par une tierce partie, approuvée par Santé Canada et conforme aux BPF, et effectué dans son laboratoire. La vérification de la qualité de l'eau est autorisée, à condition qu'un laboratoire indépendant conforme aux BPF et approuvé par Santé Canada réalise l'analyse microbiologique de vérification de la qualité de l'eau.

2) Vita Health Products Inc. shall not distribute or sell the drug product DIN 02154234 Acetaminophen Caffeine and Codeine, unless the process will consistently produce a product meeting its predetermined specifications and quality characteristics and Health Canada has been provided with the Vita Health Products Inc. approved process validation reports.

2) Vita Health Products Inc. ne doit pas distribuer ou vendre le médicament Acétaminophène avec caféine et codéine (DIN 02154234), sauf si le processus de fabrication permet de produire un produit qui respecte les spécifications et caractéristiques qualité prédéterminées de façon constante, et les rapports sur la validation de procédé approuvés par Vita Health Products Inc. ont été fournis à Santé Canada.

3) Vita Health Products Inc. shall not rework any drug subject to Division 2 of the Food and Drug Regulations.

3) Vita Health Products Inc. ne doit pas procéder à la reprise de médicaments assujettis au Titre 2 du Règlement sur les aliments et drogues.

4) Vita Health Products Inc. shall provide monthly reports to Health Canada of all laboratory out of specification results related to any drug lot (raw materials, active ingredients and finished products) occurring during the reporting period. The report shall include an investigation summary and associated corrective and preventative actions.

4) Vita Health Products Inc. doit fournir à Santé Canada des rapports mensuels sur les résultats de laboratoire hors norme touchant tout lot de médicament (matières premières, ingrédients actifs et produits finis) au cours de la période de référence. Le rapport doit comprendre un résumé d'enquête et les mesures correctives et préventives connexes.

5) Vita Health Products shall provide monthly reports to Health Canada of any printed packaging material found to not meet the requirements of the Food and Drug Regulations at the time the drug was sold. The report shall include a risk assessment and associated corrective and preventative actions.

5) Vita Health Products Inc. doit fournir à Santé Canada des rapports mensuels sur tout matériel d'emballage imprimé qui ne respectait pas les exigences du Règlement sur les aliments et drogues au moment de la vente du médicament. Le rapport doit comprendre une évaluation du risque ainsi que les mesures correctives et préventives connexes.

6) Any submission to Health Canada shall be provided to the Regional Manager, Compliance and Enforcement Directorate, Inspectorate Program, Prairie Region - Manitoba and Saskatchewan, 300-391 York Ave, Winnipeg, Manitoba, R3C 4W1; Fax at 204-594-8153 or via email

at Alexis.Grolla@hc-sc.gc.ca.

6) Toute demande à l'égard de Santé Canada devra être soumise au gestionnaire régional, Division de la conformité et de l'application de la loi, Programme de l'Inspectorat, région des prairies --- Manitoba et Saskatchewan, au 300-391 York Ave, Winnipeg (Manitoba) R3C 4W1; par télécopieur au 204 594-8153 ou par courriel à Alexis.Grolla@hc-sc.gc.ca.

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Adare Pharmaceuticals SRL

Via Martin Luther King 13
Pessano Con Bornago Milan 20060
Italy

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
N/A

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
«Biological» includes drugs listed in Schedule D to the Act, other than vaccines or whole blood and its components / « Biologique » inclut les drogues visée à l'annexe D de la Loi, autre que les vaccins ou le sang total et ses composants
«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Amneal Pharmaceutical of New York L.L.C.

75 Adams Avenue
Hauppauge NY 11788-3605
United States

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2018-07-03

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
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«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Embio Limited

E-21, MIDC Industrial Estate
Dist. Raigad
Mahad Maharashtra 402 309
India

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2020-04-18

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
«Biological» includes drugs listed in Schedule D to the Act, other than vaccines or whole blood and its components / « Biologique » inclut les drogues visée à l'annexe D de la Loi, autre que les vaccins ou le sang total et ses composants
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2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Granules India Limited

Sy. No. 160/A, 161/E, 162 and 174/A Gagillapur Village
Dundigal-Gandimaisamma Mandal, Medchal-Malkhajgiri District Telangana 500 043
India

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2020-11-27

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	
Pharmaceutical / Pharmaceutique	Package / Emballer	X	
Pharmaceutical / Pharmaceutique	Label / Étiqueter	X	
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
«Biological» includes drugs listed in Schedule D to the Act, other than vaccines or whole blood and its components / « Biologique » inclut les drogues visée à l'annexe D de la Loi, autre que les vaccins ou le sang total et ses composants
«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

MacFarlan Smith Limited

10 Wheatfield Road
Edinburgh, Scotland United Kingdom EH11 2QA
United Kingdom

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
N/A

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

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«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Procaps S.A.

Calle 80, No 78B-201
Barranquilla Atlantico
Colombia

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2017-11-12

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
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«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Health Canada Santé Canada

Establishment Licence **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

RA Chem Pharma Limited

Plot No. A-19/C Road No 18 Ida
Nacharam, Hyderabad Andhra Pradesh 500 076
India

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2018-02-08

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
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2 - if applicable / s'il y a lieu
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

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SAFC Sigma Aldrich Ireland Ltd

Vale Road
County Wicklow, Arklow
Ireland

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
N/A

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

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Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

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Sanofi Chimie

Route D'Avignon
Aramon 30390
France

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
N/A

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu
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2 - if applicable / s'il y a lieu
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Terms and Conditions / Modalités et conditions : **No / non**

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

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Shandong Xinhua Pharmaceutical Co., Ltd.

Hutian Chemical Industrial Zone
Zibo Shandong 255075
China

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2018-03-31

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

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«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence / **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Shandong Xinhua Pharmaceutical Co., Ltd.

East Chemical Zone of Zibo, High & New Technology Development Zone
Zibo, Zhangdian District
China

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2018-03-31

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

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«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

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Terms and Conditions / Modalités et conditions : **No / non**

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Foreign Building Annex / Annexe concernant les bâtiments étrangers

The following building is considered to be in compliance with the applicable sections (Division 2 - 4) of the *Food and Drug Regulations*. / Le bâtiment suivant est considéré comme étant conforme aux articles applicables (titres 2 - 4) du *Règlement sur les aliments et drogues*.

Time-Cap Labs Inc.

7 Michael Ave.
Farmingdale NY 11735-3921
United States

New evidence required by (NERBY)* / La date limite pour présenter les nouvelles preuves de BPF (NERBY)* :
2018-01-07

Category / Catégorie	Activity / Activité	Non-Sterile / Non-Stérile	Sterile / Stérile
Pharmaceutical / Pharmaceutique	Fabricate / Manufacturer	X	
Pharmaceutical / Pharmaceutique	Test / Analyser	X	

* - if applicable / s'il y a lieu

1 - if applicable / s'il y a lieu :
«Biological» includes drugs listed in Schedule D to the Act, other than vaccines or whole blood and its components / « Biologique » inclut les drogues visée à l'annexe D de la Loi, autre que les vaccins ou le sang total et ses composants
«Radiopharmaceutical» includes drugs listed in Schedule C to the Act / « Radiopharmaceutique » inclut les drogues visée à l'annexe C de la Loi

2 - if applicable / s'il y a lieu :
«Test» includes any tests and examinations required under Division 2 / « Analyser » conformement au titre 2

Terms and Conditions / Modalités et conditions : **No / non**

Canada

Health Canada / Santé Canada

Establishment Licence | **Licence d'établissement**

Licence No. / No. de la licence
100399-A

Warehouse Annex / Annexe des entrepôts

Pursuant to C.01A.008(2)(b) of the *Food and Drug Regulations*, the holder of this establishment licence is authorized to store the category(ies) of drugs, as approved on the first page of this licence, at the following Canadian building(s).

En vertu de l'article C.01A.008(2)(b) du *Règlement sur les aliments et drogues*, le détenteur de cette licence est autorisé d'entreposer les catégories de drogues, tel qu'approuvé à la première page de cette licence, dans les bâtiments canadiens suivants.

Warehouse Name / Nom d'entrepôt	Address / Adresse
	310 Debaets Street Unit 107, Winnipeg, MB, R2J 0H4

Canada

Health Canada / Santé Canada

100399-A

Vita Health Products Inc.

150 Beghin Avenue
Winnipeg MB R2J 3W2

Active Pharmaceutical Ingredient Foreign Building Annex / Annexe concernant les bâtiments étrangers d'ingrédients pharmaceutiques actifs

This is an annex to the Drug Establishment Licence 100399-A issued on 2018-03-20 which contains all foreign buildings conducting regulated activities for active pharmaceutical ingredients (API). The information included in this annex supersedes the information in any previous API Foreign Building Annex. The buildings listed below are subject to ongoing assessment of compliance with the Good Manufacturing Practices pursuant to Part C, Division 2 of the *Food and Drug Regulations*.

La présente annexe concerne la licence d'établissement de produits pharmaceutiques no 100399-A émise le 2018-03-20 et traite de tous les bâtiments étrangers où on effectue des activités réglementées comportant des ingrédients pharmaceutiques actifs (IPA). L'information contenue dans cette annexe remplace celle de toute autre annexe soumise précédemment sur des bâtiments étrangers comportant des IPA. Les bâtiments de la liste ci-dessous sont sujets à des évaluations continues de la conformité à l'égard des bonnes pratiques de fabrication en vertu de la partie C, titre 2, du *Règlement sur les aliments et drogues*.

API Name / Nom de l'IPA	Activity[1]/Activité[1]	Foreign Building Name[2] / Nom du bâtiment étranger[2]	Street, City, Postal Code / Rue, Ville, Code postal	Province/ State / État	Country / Pays
Acetaminophen	A, B, C, D	Adare Pharmaceuticals Inc.	845 Center Dr, Vanalia, 45377	Ohio	United States of America / États-Unis
Caffeine	A	Shandong Xin Hua Pharmaceutical Co., Ltd.	No. 13 Chemical Road, East Chemical Zone of High New Technology Development, Zibo, 255075	Shandong	China / Chine
Docusate	A, B, C, D	Cytec Solvay Group	#1 Heilman Avenue, Willow Island, 26134	West Virginia	United States of America / États-Unis
Ibuprofen	A	Shasun Pharmaceuticals Ltd.	Unit II, No. 32 -34 Shasun Road, Periyakalpet, 605 014	Puducherry	India / Inde
Ibuprofen	A	Hubei Biocause Pharmaceutical Co., Ltd.	122-132 Yangwan Road, Jingmen	Hubei	China / Chine
Acetaminophen	A, B, C, D	Adare Pharmaceutical, Srl	Via Martin Luther King, 13, 20060 Pessano con Borngo	Milan	Italy / Italie
Acetaminophen	A, B, C, D	SpecGx LLC	8801 Capitol Blvd., Raleigh 27616	North Carolina	United States of

Canada

Health Canada / Santé Canada

API Name / Nom de l'IPA	Activity[1]/Activité [1]	Foreign Building Name[2] / Nom du bâtiment étranger[2]	Street, City, Postal Code / Rue, Ville, Code postal	Province/ State / État	Country / Pays
					America / États-Unis
Bisacodyl	A	Dishman Pharmaceuticals and Chemicals Limited	Plot No. 1216/11, 12, 1216/24, 25, 26, GIDG Estate, Phase - IV, Naroda, Ahmedabad, PIN - 328 330	Gujarat	India / Inde
Sennosides	A	Shashi Phytochemical Industries	329 Dehli Road, Old Industrial Area, Alwar - 301001	Rajasthan	India / Inde
Methocarbamol	A, B, C, D	Seven Star Pharmaceutical Co., Ltd.	75 Fwu An Street, Tucheng District, New Taipei City	Taiwan	China / Chine
Pseudoephedrine	A, B, C, D	Malladi Drugs & Pharmaceuticals Limited	Unit 3, 7B & 7C, SPICOT Industrial Complex Ranipet – 632 403 Vellore District	Tamil Nadu	India / Inde
Chlorpheniramine	A, B, C, D	Supriya Lifescience Ltd	A-5/2, Lote Parshuram Industrial Area, M.I.D.C Taluka – Khed, District – Ratnagiri, 415 722	Maharashtra	India / Inde

(1) "A" – Fabrication, "B" – Packaging, "C" – Labelling, "D" – Testing / "A" – Fabrication, "B" – Emballage, "C" – Étiquetage, "D" – Analyse
(2) May include buildings that were part of the Pilot Project for Selected Consumer Health Products / Peut inclure des bâtiments qui font partie du Projet pilote concernant certains produits de santé destinés aux consommateurs

Canada

DATE
2019-01-01

LIST OF CONTROLLED SUBSTANCES MANUFACTURED AND/OR PACKAGED
LISTE DES SUBSTANCES DÉSIGNÉES FABRIQUÉES ET/OU EMBALLÉES

BY-PAR VITA HEALTH PRODUCTS INC.

AT-A 150 Beghin Avenue
Winnipeg MB R2J 3W2

PRODUCT NAME NOM DU PRODUIT	DRUG IDENTIFICATION NUMBER IDENTIFICATION NUMÉRIQUE DE DROGUE	*DRUG TYPE TYPE DE DROGUE	CONTROLLED SUBSTANCE SUBSTANCE DÉSIGNÉE	STRENGTH PER UNIT TENEUR PAR UNITÉ	PACKAGE SIZE FORMAT D'EMBALLAGE
A.C. & C 8mg tab	00180041	C	Codeine Phosphate	8 mg/tab	50, 100, 200
Acetaminophen 300 mg with 15 mg Caffeine and 8 mg Codeine phosphate	02154234	C	Codeine Phosphate	8 mg/cap	30, 50, 100, 200
Muscle & Back Pain Relief-8	02242180	C	Codeine Phosphate	8 mg/tab	18, 50

The sale and distribution of products within Canada without an active Drug Identification Number (DIN) is restricted to facilities in possession of a controlled substances licence, or to a person in possession of a valid exemption under subsection 56(1) of the *Controlled Drugs and Substances Act* for scientific purposes or an authorization issued under Part J of the *Food and Drug Regulations* for scientific purposes.

***DRUG TYPE**
TYPE DE DROGUE

A Narcotic/Stupéfiant
B Verbal Prescription Narcotic/Stupéfiant d'ordonnance verbale
C Codeine preparation as defined in Section 36 of the Regulations/Préparation de codéine telle que définie à l'article 36 du Règlement
D Controlled Drug/Drogue contrôlée
E Preparation/Préparation
F Targeted Substance/Substance ciblée
R Restricted Drug/Drogue d'usage restreint

Health Canada / Santé Canada

SITE LICENCE / *LICENCE D'EXPLOITATION*

Site Licence Number: / **Numéro de la licence:**	**300072**	**Expiry:** / **Expiration:**	**July 31, 2020**

This Licence is issued by the Minister of Health under the Authority of section 29 of the *Natural Health Products Regulations*

Cette licence est délivrée par le ministre de la Santé conformément à l'article 29 du Règlement sur les produits de santé naturels

Issued to: / *Délivré à:*

Name of Licensee: / ***Nom du titulaire:***	**Vita Health Products Inc.**
Address: / ***Addresse:***	**150 Beghin Avenue** **Winnipeg** **Manitoba** **R2J 3W2** **Canada**

to perform the following activities at authorized buildings listed on the Domestic Site Annex and Foreign Site Annex:

pour exécuter les activités suivantes dans les bâtiments autorisés listés sur Annexe des sites canadiens et Annexe des sites étrangers:

Activities / *Activités*	**Authorized Activities / *Activités authorisées***	**Specific Authorization / *Autorisation spécifique***	
		Sterile Dosage Form / *Forme posologique stérile*	**Homeopathic Medicine / *Remède homéopathique***
Manufacturing / *Fabrication:*	**YES/OUI**	**NO/NON**	**NO/NON**
Packaging / *Emballage:*	**YES/OUI**	**NO/NON**	**NO/NON**
Labelling / *Étiquetage:*	**YES/OUI**	**NO/NON**	**NO/NON**
Importing / *Importation:*	**YES/OUI**	**NO/NON**	**NO/NON**

This licence is renewable pursuant to section 36 of *the Natural Health Products Regulations*. Any changes to the activities authorized by this licence are subject to sections 32 and 33 of the Regulations.

Cette licence est renouvelable annuellement en vertu de l'article 36 du Règlement sur les produits de santé naturels. Tout changement aux activités autorisées par cette licence est régi par les articles 32 et 33 du Règlement.

Issued / *Délivrée:*	**July 31, 2017**	**Amended / *Modifiée:***	**N/A**

Annex Attached/ *Annexes jointes:*

A/Director General, Natural and Non-prescription Health Products Directorate
Int./ Directrice générale, Direction des produits de santé naturels et sans ordonnance

Canada

Note: The licensee is responsible to submit a request to renew the licence to the Minister no later than 30 days before the day on which the licence expires including the required Good Manufacturing Practice Compliance Evidence

Remarque: Le titulaire est responsable de soumettre une demande de renouvellement de la licence au ministre au moins 30 jours avant la date d'expiration de la licence. La demande doit inclure la preuve requise de conformité aux bonnes pratiques de fabrication.

Health Canada / Santé Canada

Canadian Site Annex / *Annexe des sites canadiens*

The following sites are considered to be in compliance with GMP requirements outlined in PART 3 of the *Natural Health Products Regulations*.

Les sites suivants sont considérés conforme avec les normes des bonnes pratiques de fabrication tel que stipulé dans la partie 3 du Règlement sur les produits de santé naturels.

Building Name: / ***Nom du bâtiment:***	**Vita Health Products Inc.**		
Address: / ***Addresse:***	**150 Beghin Avenue** **Winnipeg** **Manitoba** **R2J 3W2** **Canada**		
Activities / *Activités*	**Authorized Activities / *Activités authorisées***	**Specific Authorization / *Autorisation spécifique***	
		Sterile Dosage Form / *Forme posologique stérile*	**Homeopathic Medicine / *Remède homéopathique***
Manufacturing/*Fabrication:*	**YES/OUI**	**NO/NON**	**NO/NON**
Packaging/*Emballage:*	**YES/OUI**	**NO/NON**	**NO/NON**
Labelling/*Étiquetage:*	**YES/OUI**	**NO/NON**	**NO/NON**
Importing/*Importation:*	**YES/OUI**	**NO/NON**	**NO/NON**

Foreign Site Annex / Annexe des sites *étrangers*

The following sites are considered to be in compliance with GMP requirements outlined in PART 3 of the *Natural Health Products Regulations*.

Les sites suivants sont considérés conforme avec les normes des bonnes pratiques de fabrication tel que stipulé dans la partie 3 du Règlement sur les produits de santé naturels.

Foreign Company Name: / **Nom de l'entreprise étrangère:**	**Arizona Production and Packaging**		
Address: / ***Addresse:***	**7303 South Kyrene Road** **Tempe** **Arizona** **85283** **United States of America**		
Activities / *Activités*	**Authorized Activities / *Activités authorisées***	**Specific Authorization / *Autorisation spécifique***	
		Sterile Dosage Form / *Forme posologique stérile*	**Homeopathic Medicine / *Remède homéopathique***
Manufacturing/*Fabrication:*	**YES/OUI**	**NO/NON**	**NO/NON**
Packaging/*Emballage:*	**YES/OUI**	**NO/NON**	**NO/NON**
Labelling/*Étiquetage:*	**YES/OUI**	**NO/NON**	**NO/NON**

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	105 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	115 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing LLC		
Address: *Addresse:*	815 Grundy Ave. Holbrook New York 11741 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	10 Vitamin Drive Bayport New York 11705 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	Aphena Pharma Solutions - Maryland LLC		
Address: *Addresse:*	7978 Industrial Park Road Easton Maryland 21601-8600 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Bershtel Enterprise LLC dba WePackItAll		
Address: *Addresse:*	2745 Huntington Drive Duarte California 91010-2302 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Delavau Co. Inc.		
Address: *Addresse:*	10101 Roosevelt Boulevard Philadelphia Pennsylvania 19154-2105 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	J&D Laboratories, Inc		
Address: *Addresse:*	2710 Progress Street Vista, California 92084, United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	105 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	115 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing LLC		
Address: *Addresse:*	815 Grundy Ave. Holbrook New York 11741 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Inc.		
Address: *Addresse:*	10 Vitamin Drive Bayport New York 11705 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	Aphena Pharma Solutions - Maryland LLC		
Address: *Addresse:*	7978 Industrial Park Road Easton Maryland 21601-8600 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Bershtel Enterprise LLC dba WePackItAll		
Address: *Addresse:*	2745 Huntington Drive Duarte California 91010-2302 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Delavau Co. Inc.		
Address: *Addresse:*	10101 Roosevelt Boulevard Philadelphia Pennsylvania 19154-2105 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	J&D Laboratories, Inc		
Address: *Addresse:*	2710 Progress Street Vista, California 92084, United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing LLC dba NBTY Manufacturing Florida		
Address: *Addresse:*	901 Broken Sound Parkway Northwest Boca Raton Florida 33487 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing, LLC dba NBTY Manufacturing New York		
Address: *Addresse:*	90 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing Texas, LLC		
Address: *Addresse:*	4266 Dividend Rd. San Antonio Texas 78219 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Rexall Sundown Division		
Address: *Addresse:*	1111 Southwest 30th Avenue Deerfield Beach Florida 33442 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	Nellson Nutraceutical, LLC		
Address: *Addresse:*	5115 East La Palma Avenue Anaheim California 92807 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Robinson Pharma Inc.		
Address: *Addresse:*	3330 South Harbor Blvd. Santa Ana California 92704 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Santa Cruz Nutritionals		
Address: *Addresse:*	2200 Delaware Avenue Santa Cruz California 95060 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Solgar Inc.		
Address: *Addresse:*	500 Willow Tree Road Leonia New Jersey 07605-2232 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing LLC dba NBTY Manufacturing Florida		
Address: *Addresse:*	901 Broken Sound Parkway Northwest Boca Raton Florida 33487 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing, LLC dba NBTY Manufacturing New York		
Address: *Addresse:*	90 Orville Drive Bohemia New York 11716 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Manufacturing Texas, LLC		
Address: *Addresse:*	4266 Dividend Rd. San Antonio Texas 78219 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	NBTY Rexall Sundown Division		
Address: *Addresse:*	1111 Southwest 30th Avenue Deerfield Beach Florida 33442 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	NO/NON	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	Nellson Nutraceutical, LLC		
Address: *Addresse:*	5115 East La Palma Avenue Anaheim California 92807 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Robinson Pharma Inc.		
Address: *Addresse:*	3330 South Harbor Blvd. Santa Ana California 92704 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Santa Cruz Nutritionals		
Address: *Addresse:*	2200 Delaware Avenue Santa Cruz California 95060 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Solgar Inc.		
Address: *Addresse:*	500 Willow Tree Road Leonia New Jersey 07605-2232 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	NO/NON	NO/NON	NO/NON
Labelling/*Étiquetage:*	NO/NON	NO/NON	NO/NON

Health Canada / Santé Canada

Foreign Company Name: Nom de l'entreprise étrangère:	Time Cap Labs Inc.		
Address: *Addresse:*	7 Michael Avenue Farmingdale New York 11735 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Foreign Company Name: Nom de l'entreprise étrangère:	Ultimate Formulations dba Best Formulations		
Address: *Addresse:*	938 Radecki Court City of Industry California 91748 United States of America		
Activities / *Activités*	Authorized Activities / *Activités authorisées*	Specific Authorization / *Autorisation spécifique*	
		Sterile Dosage Form / *Forme posologique stérile*	Homeopathic Medicine / *Remède homéopathique*
Manufacturing/*Fabrication:*	YES/OUI	NO/NON	NO/NON
Packaging/*Emballage:*	YES/OUI	NO/NON	NO/NON
Labelling/*Étiquetage:*	YES/OUI	NO/NON	NO/NON

Health Canada
Santé Canada

Healthy Environments and Consumer Safety Branch
Direction générale, Santé environnementale et sécurité des consommateurs
Address Locator 0300B
Ottawa ON K1A 0K9

Your file *Votre référence*

Our file *Notre référence*
9636-9-0118
HC6-70-306-10

FEB 13 2018

Rachel Marie Cahill
Senior Person in Charge
Vita Health Products Inc.
150 Beghin Ave
Winnipeg MB R2J 3W2

Subject: Class A Precursor Licence Renewal

Dear Rachel Marie Cahill:

Please find enclosed the renewed licence for Class A precursor(s) issued in the name of your company. It is effective on April 1, 2018 and valid until March 31, 2019. This licence authorizes your company to conduct the regulated activities listed for the specified Class A precursor(s), in accordance with the conditions, if any, set out in your licence.

As per Section 85(7) of the *Precursor Control Regulations* (PCR), you are required to provide our Office with monthly reports of all recorded transactions for ephedrine raw material and preparations due by the 15th day of the following month. If no activities were conducted during the reporting period, a nil report is still required. The report must be submitted via email to: precursors-precurseurs@hc-sc.gc.ca.

The list of authorized personnel at your site for all regulated Class A precursor transactions is as follows:

SPIC:	Rachel Marie Cahill
RPIC:	Dennis Alexander Jacques
A/RPIC:	Andrew Tyler Schellenberg
	Bernadette Lim Dela Cruz
	Joel Torres Gusto
	Jennifer Esguerra Lachica
	Rakhman Hakim
	Fenil Bharatkumar Patel
	Roselyn Nitro Castor Dauz

We wish to remind you that you are responsible for complying with the *Controlled Drugs and Substances Act* and the PCR. More information can be obtained at Health Canada's website, www.healthcanada.gc.ca/precursors.

If you have any questions, please do not hesitate to contact our Office at the following email address: precursors-precuseurs@hc-sc.gc.ca.

Sincerely,

Edwin Song
A/Head, Chemical Precursors Section
Authorizations Division
Office of Controlled Substances
Health Canada

Enclosure

Health Canada / Santé Canada

PRECURSOR LICENCE
LICENCE DE PRÉCURSEURS

Licence No. **9-0118-2018**

Effective Date / La date de prise d'effet:	**April/Avril 01, 2018**
Expiry Date / La date d'expiration:	**March/Mars 31, 2019**

Pursuant to Section 16 of the *Precursor Control Regulations*, this licence is issued to the named licensed dealer, at the site indicated below, for the conduct of the specified activities with the following precursors:

Conformément aux dispositions de l'article 16 du *Règlement sur les précurseurs,* la présente licence est délivrée au distributeur autorisé, au nom et à l'installation apparaissant plus bas, pour la conduite des activités telles que spécifiées avec les précurseurs suivants:

LICENSED DEALER / DISTRIBUTEUR AUTORISÉ	
VITA HEALTH PRODUCTS INC. **150 Beghin Avenue** **Winnipeg, MB R2J 3W2, Canada**	
ACTIVITY / ACTIVITÉ	**PRECURSOR(S) / PRÉCURSEUR(S)**
Produce / Production	PSEUDOEPHEDRINE
Package / Emballage	PSEUDOEPHEDRINE
Sell or provide / Vente ou fourniture	PSEUDOEPHEDRINE
Import / Importation	EPHEDRINE NOREPHEDRINE PSEUDOEPHEDRINE
Export / Exportation	PSEUDOEPHEDRINE
CONDITIONS	
N/A	

Manager or Assistant Manager, Authorizations Division, Office of Controlled Substances, CSD/ORT, for and on behalf of the Minister of Health
Gestionnaire ou Gestionnaire associé, Division des autorisations, Bureau des substances contrôlées, DSC/ETMO, pour la Ministre de la Santé

Canada

Appendix E OVERSTRENGTH DISCHARGE PERMIT

Winnipeg

Water and Waste Department • Service des eaux et des déchets

2016-2020 Overstrength Discharge Licence

Sewer By-law No. 92/2010

File Number: 040-17-03-04-95

Company and Contact Information

Company Name: **Vita Health Products Inc.**
Location: **150 Beghin Avenue**
Contact: **Stephanie Haverstick, VP and Operating Officer**
Phone Number: **(204) 654-5476**
Fax Number:
Email: **shaverstick@vitahealth.ca**

Licence Information

Licence Number: VITA-2016
Effective Date: January 1, 2016

Date Issued: December 22, 2015
Valid Until: December 31, 2020

Conditions of Agreement

- Vita Health Products Inc. may discharge overstrength wastewater into the sewer at 150 Beghin Avenue.
- The wastewater must not contain any substances in Schedule A of the Sewer By-law.
- Overstrength wastewater may only exceed the concentration limits of **Biochemical Oxygen Demand, Nitrogen (total), Phosphorus (total)**, and **Suspended Solids (total)** in Schedule B of the Sewer By-law
- The licence holder must pay applicable surcharges on biochemical oxygen demand, total nitrogen, total phosphorus, and total suspended solids that exceed the limits in Schedule B of the Sewer By-law.
- The licence holder must comply with licence conditions and all clauses of the City of Winnipeg Sewer By-law 92/2010.
- Overstrength Discharge Licences are issued for up to five years. They are renewable annually by December 31st, and renewal fees apply.
- If the licence holder does not meet the conditions of the Overstrength Discharge Licence, it will be suspended or cancelled by the City of Winnipeg.
- The licence may be cancelled or suspended if the wastewater cannot be accommodated and treated within the wastewater system.
- The licence holder must notify the Water and Waste Department in writing of any spills to the sewer, or process or treatment upsets, that may result in a change to the usual composition of the wastewater from the facility.
- The licence holder must notify the Water and Waste Department in writing of any changes to the information in their licence within ten business days. If notification is not received the licence will be void.

Signature: _____ Date: 01/04/2016
Stephanie Haverstick, Vita Health Products Inc.

Recommended: _____
Meghan Marsland, Industrial Waste Services Branch Head

Approved: _____
Renée Grosselle, Manager of Environmental Standards Division

THE CITY OF WINNIPEG BY– LAW NO. 92/2010

Conditions pertaining to the issuance and validity of this licence are as in Part 3 and Part 7 of City of Winnipeg Sewer By-Law No. 92/2010

PART 3 GENERAL

Monitoring requirements

6 Where an access point is necessary to observe, sample or measure wastewater, at the direction of a designated employee, the owner or occupant of a property must:

(a) construct or install a suitable access point, following plans and specifications approved by the designated employee; and

(b) maintain the access point in a safe condition and ensure that it is accessible to a designated employee at all reasonable times.

Sampling and analytical requirements

7(1) All measurements, tests and analyses required or authorized under this By-law must follow the *Standard Methods for the Examination of Water and Wastewater.*

7(4) Samples must be taken at an access point, or other location determined by a designated employee.

7(6) In the absence of evidence to the contrary, samples taken from wastewater discharged from a property are presumed to be characteristic of all the wastewater discharged into the wastewater system from that property.

Permits, licences and authorizations

9(7) It is a condition of any permit, licence or authorization issued under this By-law that the applicant consent to the entry of a designated employee to the property at any reasonable time, without notice, in order to conduct an inspection or otherwise administer or enforce this By-law.

Suspending and cancelling a permit, licence or authorization

10(3) A designated employee may suspend or cancel a permit, licence or authorization if:

(a) the holder of the permit, licence or authorization has failed to comply with this By-law, the Water Works By-law, the Lot Grading By-law, other relevant legislation, or conditions imposed on the licence, permit or authorization;

(b) the applicant provided false or misleading information in the application that had an effect on the decision to grant the permit, licence or authorization;

(c) the past conduct of the holder of the permit, licence or authorization creates a reasonable concern that the authorized activity will not comply with this By-law, another by-law, other relevant legislation, or conditions imposed on the licence, permit or authorization; or

(d) an activity authorized by the permit, licence or authorization poses a risk to human health or safety, property, or the environment.

Responsibility for complying with this By-law

13(3) A requirement imposed by this By-law on a generator of wastewater or land drainage, including an owner or occupant of property, includes the obligation not to permit the requirement to be violated by another person.

Dilution prohibited

14(1) A person must not dilute wastewater or land drainage with water or any other material in order to comply with the discharge limits set out in this By-law unless a designated employee has given written permission for the dilution.

PART 7 DISCHARGES OF WASTEWATER

Responsibility for complying with this Part

39 The generator of wastewater is responsible for ensuring that the wastewater being discharged meets the requirements of this Part.

Wastewater must be discharged to wastewater system

40 Unless otherwise authorized in this Part, wastewater must be discharged only to the wastewater system.

Wastewater discharges to wastewater system restricted

41(1) Except as authorized by an Overstrength Discharge Licence or a Wastewater Discharge Licence, a person must not discharge or allow the discharge of wastewater into the wastewater system, if to do so is likely to:

(a) pose a risk of harm to human health or safety, property, or the environment;

(b) interfere with the operation or maintenance of the wastewater system or the land drainage system;

(c) damage the wastewater system or the land drainage system;

(d) restrict the flow in the land drainage system or the wastewater system;

(e) cause an unusual and offensive odour to be given off from the land drainage system or the wastewater system; or

(f) prevent the City from meeting limits imposed by the Province of Manitoba or Government of Canada for disposal of liquid to waterways or of biosolids to land.

41(2) Except as authorized by an Overstrength Discharge Licence or a Wastewater Discharge Licence, a person must not discharge or allow the discharge of wastewater into the wastewater system if it contains:

(a) any of the substances set out in Schedule A; or

(b) substances with concentrations that exceed the limits set out in Schedule B.

Discharge rate limits

43(3) If a designated employee imposes a limit under subsection (1), the generator must construct and maintain a discharge control device acceptable to the designated employee.

Overstrength Discharge Licence required

44(1) The generator must not allow wastewater to be discharged into the wastewater system if it violates Schedule B, unless he or she holds an Overstrength Discharge Licence issued by a designated employee, in accordance with section 9, authorizing the specific discharge. In this case, the generator must comply with any limits or conditions on specific substances specified in the Overstrength Discharge Licence.

44(2) A designated employee may issue an Overstrength Discharge Licence only if he or she concludes that the overstrength wastewater can be accommodated and treated within the wastewater system.

44(3) In addition to the reasons set out in Part 3 for suspending or cancelling a licence, an Overstrength Discharge Licence may be suspended or cancelled if the designated employee concludes that the overstrength wastewater cannot be accommodated and treated within the wastewater system.

44(4) The designated employee may impose, as a condition on the Overstrength Discharge Licence, the requirement that the licence holder treat the wastewater in a manner specified by the designated employee so that it meets the By-law requirements.

Surcharges for select overstrength wastewater substances

45(1) The generator of wastewater must pay any applicable surcharges on substances that exceed the limits set out in Schedule B. The surcharges must be based on a sampling protocol designed to represent discharges over a full day of operation of the generator.

45(2) For the purposes of subsection (1), a full day of operation means all or part of a 24-hour period, beginning at the start of production and ending at the completion of cleanup, during which a continuous or intermittent discharge to the wastewater system can occur.

SCHEDULE A

Substances Prohibited In Discharges to Wastewater System

Please see the City of Winnipeg Sewer By-Law No. 92/2010 for a complete list of the prohibited substances.

SCHEDULE B

Concentration Limits for Discharges into the Wastewater System

Please see the City of Winnipeg Sewer By-Law No. 92/2010 for a complete list of the selected concentration limits for discharges into the Wastewater System.

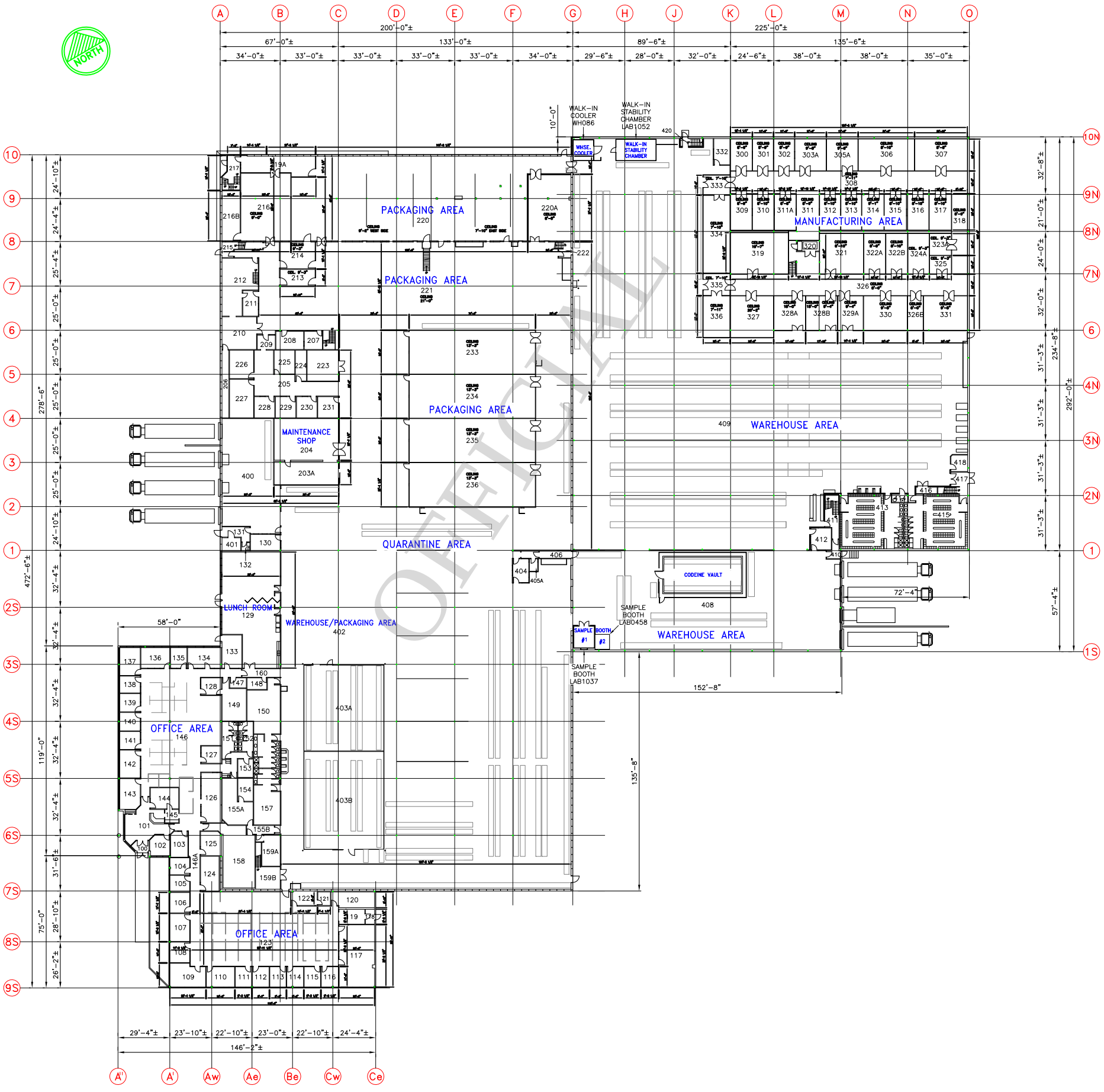
Appendix F BUILDING LAYOUT PLAN

If printed, this document cannot be used after this date: 2019-01-21

VITA
HEALTH PRODUCTS

BUILDING DIMENSIONS (MAIN FLOOR)

POSTING APPROVAL:	X	ENGINEERING		SECURITY		SAFETY	
SOLABS REVISION NO.: 013		DATE OF LAST CHANGE:		APRIL 10, 2017		QA APPROVAL:	SEE SOLABS
FORM NO.: ANNEX 03		APPROVAL DATE (FROM SOLABS):					



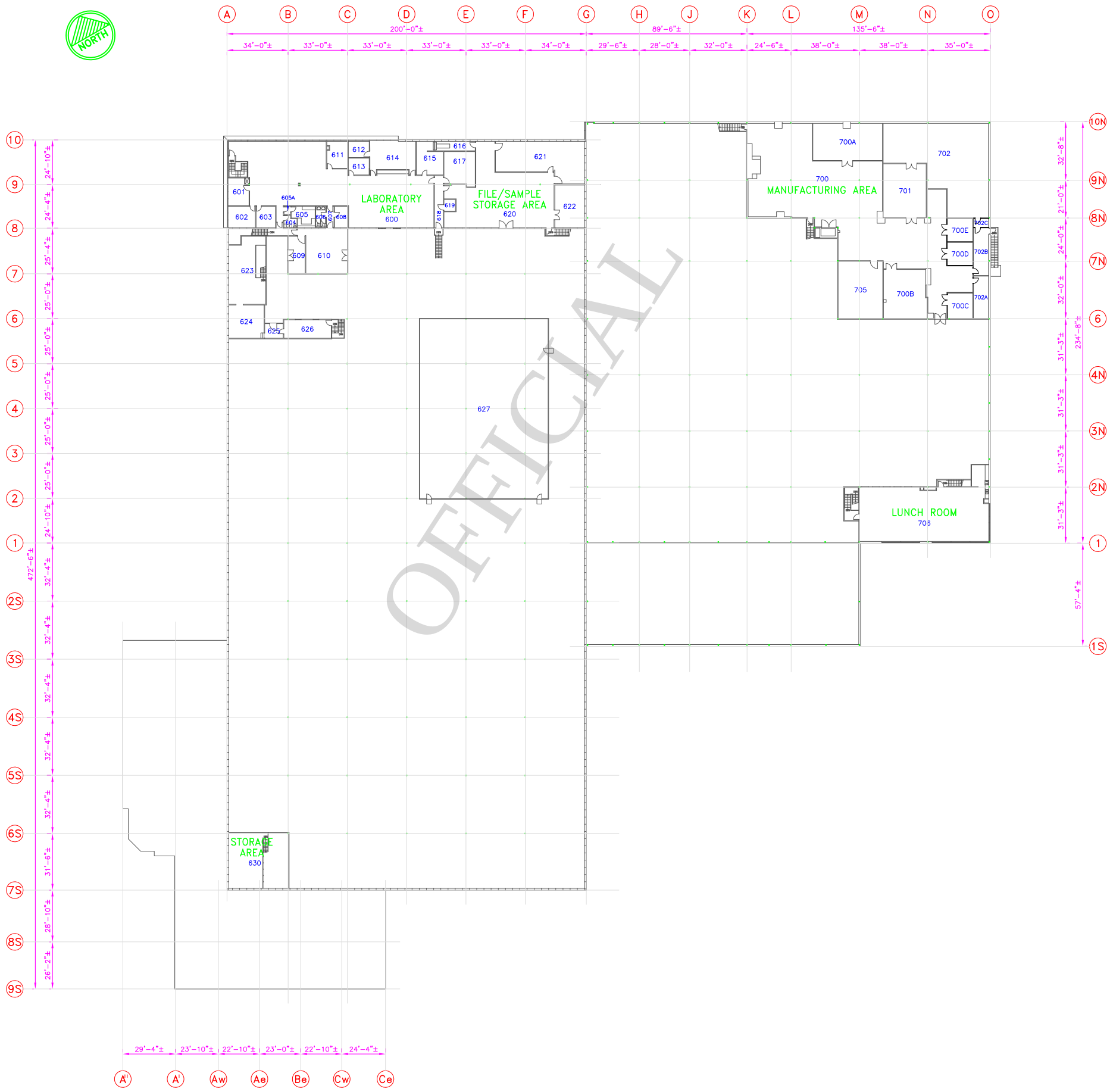
MAIN FLOOR PLAN

If printed, this document cannot be used after this date: 2019-01-21

VITA
HEALTH PRODUCTS

BUILDING DIMENSIONS (SECOND FLOOR)

POSTING APPROVAL:	X	ENGINEERING		SECURITY		SAFETY	
SOLABS REVISION NO.: 013		DATE OF LAST CHANGE:		APRIL 10, 2017		QA APPROVAL:	SEE SOLABS
FORM NO.: ANNEX 03		APPROVAL DATE (FROM SOLABS):					



OFFICIAL

SECOND FLOOR PLAN

Appendix G EQUIPMENT LOCATION PLAN

EQUIPMENT LOCATION MAP - MANUFACTURING

VITA
HEALTH PRODUCTS

NORTH

MANUFACTURING AREA

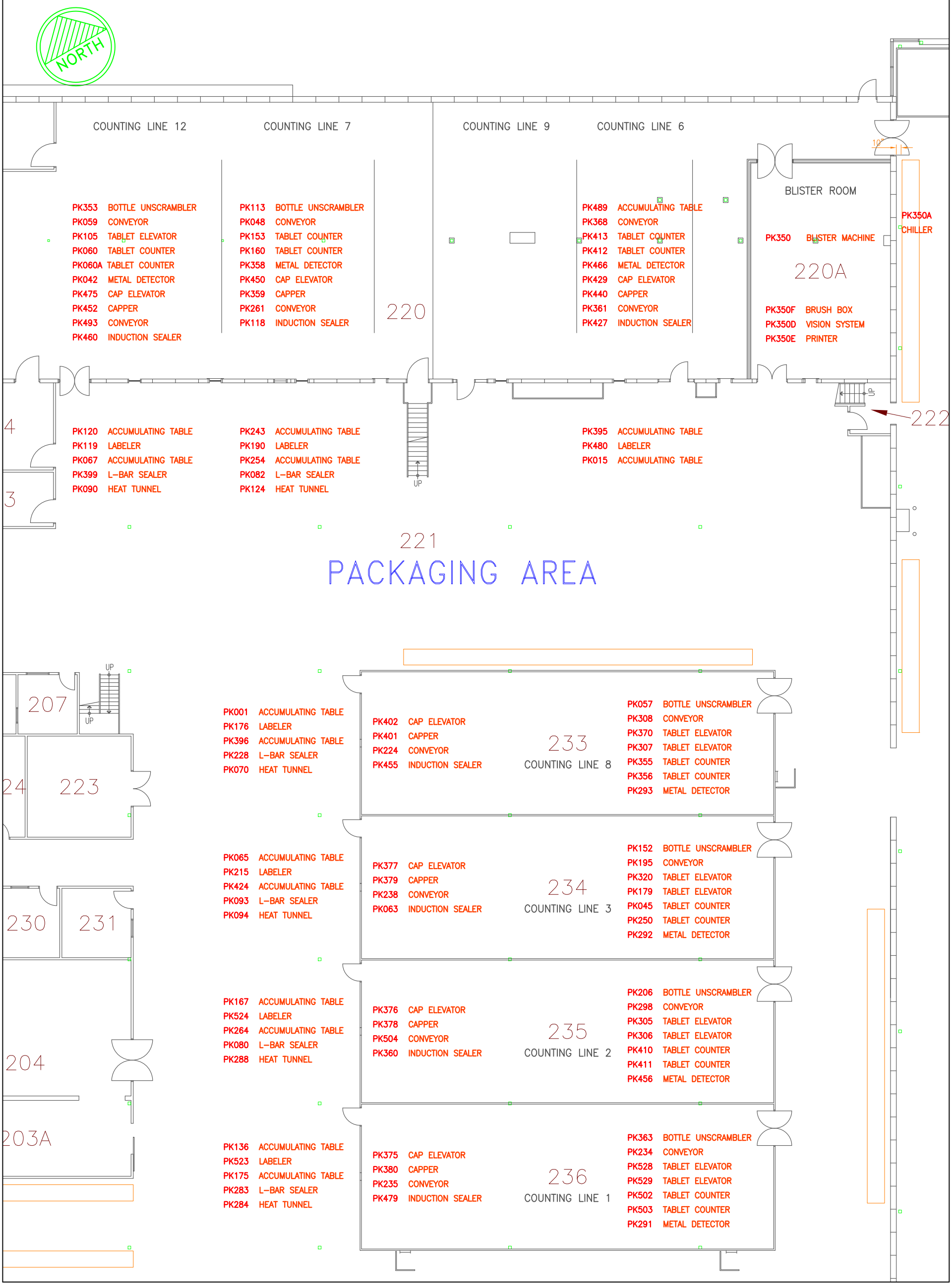
MFG. OFFICE 332
UP
MC078 TABLET PRESS (COURTOY R190) 300 COMPRESSION ROOM
MC016 TABLET PRESS (UNIPRESS #2) 301 COMPRESSION ROOM
MC343 TABLET PRESS (FETTE 3200i) 302 COMPRESSION ROOM
MC164 COATING PAN (CP 5) 303A COATING ROOM
MC165 COATING PAN (CP 6) 305A COATING ROOM
MC342 COATING PAN (CP 7) 306A COATING ROOM
MC080 COATING PAN (CP 4) 306B COATING ROOM
MC147 COATING PAN (CP 1) 307A COATING ROOM
MC045 COATING PAN (CP 2) 307B COATING ROOM
333
COMPRESSION ROOM 309 MC042 TABLET PRESS (COURTOY R100)
COMPRESSION ROOM 310 MC277 TABLET PRESS (FETTE 3200)
COMPRESSION ROOM 311A MC005 TABLET PRESS (FETTE #1)
311
COMPRESSION ROOM 312 MC219 ENCAPSULATOR (BOSCH GKF700)
COMPRESSION ROOM 313 MC191 TABLET PRESS (FETTE 3200i)
WASH BAY 314
FLEX BAY 315
COMPRESSION ROOM 316 MC346 BLENDER (LARGE RIBBON)
PW ROOM 317
318
TOOLING ROOM 334
MC068 BLENDER (BOHLE PM4000) 319 BLENDING ROOM
320 ELEVATOR
MC215 BLENDER (TOTE BIN BLENDER) 321 BLENDING ROOM
MC069 TABLET PRESS (FETTE #3–P3000) 322A COMPRESSION ROOM
MC070 TABLET PRESS (FETTE #4–P3000) 322B COMPRESSION ROOM
MC216 ENCAPSULATOR (BOSCH DMW700) 324A COMPRESSION ROOM
MC034 MIXER (SMALL RIBBON) 323A BLENDING ROOM
325 MILLING ROOM
MC047 MIXER (GRANULATION)
UP
335
326
CLEAN EQUIPMENT STORAGE ROOM 336
BLENDING ROOM 327 MC148 BLENDER (BOHLE PM6000)
WEIGH ROOM 328A MC231 FLOOR SCALE
WEIGH ROOM 328B MC128 FLOOR SCALE
WEIGH ROOM 329A MC027 FLOOR SCALE
WASH BAY 330
FLEX BAY 326B
BLENDING ROOM 331 MC091 BLENDER (LARGE RIBBON)

POSTING APPROVAL:
ENGINEERING X
SECURITY
SAFETY
SOLABS REVISION NO.: 023
DATE OF LAST CHANGE: JANUARY 7, 2019
QA APPROVAL: SEE SOLABS
FORM NO.: ANNEX 13
APPROVAL DATE (FROM SOLABS):

VITA HEALTH PRODUCTS

EQUIPMENT LOCATION MAP - PACKAGING (COUNTING LINES)

POSTING APPROVAL:	X	ENGINEERING		SECURITY	SAFETY
SOLABS REVISION NO.: 023		DATE OF LAST CHANGE: JANUARY 7, 2019		QA APPROVAL: SEE SOLABS	
FORM NO.: ANNEX 13		APPROVAL DATE (FROM SOLABS):			



VITA HEALTH PRODUCTS

EQUIPMENT LOCATION MAP - PACKAGING (CARTONING LINES)

POSTING APPROVAL:	X	ENGINEERING		SECURITY		SAFETY	
SOLABS REVISION NO.: 023		DATE OF LAST CHANGE:		JANUARY 7, 2019		QA APPROVAL:	SEE SOLABS
FORM NO.: ANNEX 13		APPROVAL DATE (FROM SOLABS):					

NORTH

WAREHOUSE/PACKAGING AREA

402

403A

403B

PK532 CARTONER
PK284 L-BAR SEALER
PK204 HEAT TUNNEL

CARTONING LINE (LANGEN 3)

PK531 CARTONER

CARTONING LINE (LANGEN 2)

PK148 CARTONER
PK221 L-BAR SEALER
PK229 HEAT TUNNEL

CARTONING LINE (LANGEN 1)

PK210 CARTONER
PK122 L-BAR SEALER
PK212 HEAT TUNNEL

CARTONING LINE (TISMA 3)

PK209 CARTONER
PK252 L-BAR SEALER
PK083 HEAT TUNNEL

CARTONING LINE (TISMA 2)

PK178 CARTONER
PK286 L-BAR SEALER
PK081 HEAT TUNNEL

CARTONING LINE (TISMA 1)

Appendix H SAFETY DATA SHEETS

Deosan®

Liquid Quaternary Sanitizer/Detergent

Description

Deosan® sanitizer is a liquid quaternary ammonium formulation for one step cleaning/sanitizing of light to moderately soiled floors, walls, equipment and instruments in food processing areas, hospitals, institutions, nursing homes and restaurants.

Effective

- Dual quaternary blend provides broad spectrum anti-microbiocidal action
- Natural deodorizing properties leave areas with fresh, clean smell
- Blended surfactants and sequesterant provide rapid soil removal and streak-free rinsing even in very hard water

Versatile

- Dual purpose formula is suitable as combination cleaner/sanitizer under light soil conditions
- Safe to use on most equipment and surfaces at use dilution

Phosphate-Free

- Reduces phosphorus in effluent
- Acceptable for use in areas that restrict phosphates

Discussion

Although cleaning and sanitizing is normally a two-step process, the use of **Deosan®** solution as a combination cleaner/sanitizer on light to moderately soiled surfaces and equipment will help to provide effective antimicrobial control. Its combination of surfactants, sequesterants, alkalinity builders and quat sanitizing agent make it an ideal general purpose liquid detergent for general environmental sanitation and deodorizing. This product is applicable for use in most food and beverage processing operations and may be applied via brush, spray, immersion or manual methods.

Divosan

The information contained in this bulletin is believed true and accurate. As Diversey cannot control actual product use/application, Diversey disclaims any liability resulting from the use of this product.

Deosan®

Liquid Quaternary Sanitizer/Detergent

Use Instructions

Cleaner/Sanitizer (Food Contact Surfaces)

A. Brush, spray or wipe with a solution at 6.25 mL/L of warm or cold water (yields 305 ppm active sanitizer).

B. Rinse with potable water.

Cleaning/Disinfecting (Excluding Food Processing Areas)

A. Make a solution containing 12.5 mL to 1 liter of warm or cold water (yields 610 ppm active sanitizer).

B. Floors - mop or scrub with **Deosan®** solution. Walls and above floor surfaces - spray or sponge wipe with **Deosan®** solution.

C. Rinse the surfaces thoroughly with clean water.

Microbiocidal Efficacy

Deosan® sanitizer when diluted at 1.25% (12.5 mL/L) with distilled water, fulfills the requirements of the A.O.A.C. Use-dilution test for effectiveness at that dilution.

Product Compatibility

This product at recommended use levels is safe on most surfaces typically encountered in food and beverage plants. Prolonged contact with aluminum may cause some discoloration.

Test Kit

Test Kit # 409882

Precautionary Statement

Refer to current Material Safety Data Sheet.

Safe Handling and Storage Information

Store in original closed containers, away from extreme temperatures. Full guidance on the handling and disposal of this product is provided in a separate Material Safety Data Sheet.

Technical Data

DIN	02238620
Color/Form	Clear green liquid
Scent	No fragrance added
Specific Gravity	1.07
pH (neat)	13.0
pH (1%)	11.4
% P	0.0
% Free Alkalinity (as Na_2O)	2.5
% Total Alkalinity (as Na_2O)	2.65

The above data is typical of normal production and should not be taken as a specification.

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Diversey
for a cleaner, healthier future™

MATERIAL SAFETY DATA SHEET

Diversey

DEOSAN

HMIS	
Health	3
Flammability	0
Physical Hazard / Instability	0

NFPA

Personal protective equipment

Version Number: 2

Preparation date: 2015-11-19

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DEOSAN

SDS #: MS0301120
Product Code: 0032205, 57648280
Recommended use:
- Food Processing
- This product is intended to be diluted prior to use

Manufacturer, importer, supplier:
US Headquarters
Sealed Air
8215 Forest Point Blvd.
Charlotte, NC 28273-5509
Phone: 1-888-352-2249
SDS Internet Address: https://sds.sealedair.com

Canadian Headquarters
Sealed Air - Canada
3755 Laird Road
Mississauga, Ontario L5L 0B3
Phone: 1-800-668-7171

Emergency telephone number: 1-800-851-7145 (U.S.); 1-651-917-6133 (Int'l)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
DANGER. CORROSIVE. CAUSES SKIN AND EYE BURNS. HARMFUL OR FATAL IF SWALLOWED.

Principal routes of exposure: Eye contact. Skin contact. Inhalation.
Eye contact: Corrosive. Causes permanent eye damage, including blindness.
Skin contact: Corrosive. Causes permanent damage.
Inhalation: May cause irritation and corrosive effects to nose, throat and respiratory tract.
Ingestion: Corrosive. Causes burns to mouth, throat and stomach.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS #	Weight %	LD50 Oral - Rat (mg/kg)	LD50 Dermal - Rabbit	LC50 Inhalation - Rat
Trisodium salt of NTA	5064-31-3	1 - 5%	1450	Not available	>5 mg/L (4 h)
n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chloride	68391-01-5	1 - 5%	500	Not available	Not available
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chloride	68956-79-6	1 - 5%	500	Not available	Not available
Sodium metasilicate	6834-92-0	1 - 5%	1152	Not available	Not available
Potassium hydroxide	1310-58-3	1 - 5%	273	Not available	Not available
Ethyl alcohol	64-17-5	0.1 - 1.5%	7060	Not available	=124.7 mg/L (4 h)

4. FIRST AID MEASURES

Eye contact: Immediately flush eyes with running water for 15-20 minutes, keeping eyelids open. Get medical attention immediately.
Skin contact: Immediately flush with plenty of water for 15-20 minutes. Get medical attention immediately.
Inhalation: If breathing is affected, remove to fresh air. Get medical attention immediately.
Ingestion: If swallowed, rinse mouth. Give a cupful of water or milk. THEN IMMEDIATELY CONTACT A

PHYSICIAN OR POISON CENTER. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Aggravated Medical Conditions: Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc., may be more susceptible to irritating effects.

5 FIRE-FIGHTING MEASURES

Suitable extinguishing media: The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
Extinguishing media which must not be used for safety reasons: None.
Specific hazards: Not applicable.
Unusual hazards: Corrosive material (See sections 8 and 10).
Specific methods: None known.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions: Put on appropriate personal protective equipment (see Section 8.).
Environmental precautions and clean-up methods: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Prevent product from entering drains.

7 HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing and footwear before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.
Storage: Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures to reduce exposure:
Good general ventilation should be sufficient to control airborne levels. Respiratory protection is not required if good ventilation is maintained.

Personal Protective Equipment

Eye protection: Chemical-splash goggles.
Hand protection: Chemical-resistant gloves
Skin and body protection: Protective footwear. If major exposure is possible, wear suitable protective clothing and footwear.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Ingredient(s)	CAS #	ACGIH	OSHA	Mexico
Potassium hydroxide	1310-58-3	2 mg/m³ (Ceiling)		
Ethyl alcohol	64-17-5	1000 ppm (STEL)	1000 ppm (TWA) 1900 mg/m³ (TWA)	1000 ppm (TWA) 1900 mg/m³ (TWA)

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance: Liquid
Specific gravity: 1.06
Vapor density: No information available
Boiling point/range: Not determined
Decomposition temperature: Not determined
Solubility: Completely Soluble
Solubility in other solvents: No information available
Partition coefficient (n-octanol/water): No information available
Elemental Phosphorus: 0.00 % by wt.
pH: 13.0
Explosion limits: - upper: Not determined **- lower:** Not determined

Bulk density: No information available
Evaporation Rate: No information available
Color: Clear, Fluorescent, Yellow Lime
Odor: No Odor/Odorless
Melting point/range: Not determined
Autoignition temperature: No information available
Density: 8.84 lbs/gal 1.06 Kg/L
Flash point: > 200 °F > 93.4 °C
Viscosity: No information available
VOC: .55 % *
Dilution pH: 10.59 @ 625ml:100L

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

10 STABILITY AND REACTIVITY

Stability:	Stable
Polymerization:	None under normal processing.
Hazardous decomposition products:	None reasonably foreseeable.
Materials to avoid:	Acids.
Conditions to avoid:	Stable at normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: Corrosive
Oral LD50 estimated to be 3000 - 4000 mg/kg Dermal LD50 estimated to be > 2000 mg/kg

Component Information: See Section 3.

Chronic toxicity: None known

Specific effects

Carcinogenic effects: None known
Mutagenic effects: None known
Reproductive toxicity: None known
Target organ effects: None known

Ingredient(s)	CAS #	NTP	IARC	OSHA
Trisodium salt of NTA	5064-31-3		2B	X
Ethyl alcohol	64-17-5		-	

12. ECOLOGICAL INFORMATION

Environmental Information: No data available.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Undiluted product is regulated under environmental and transportation laws as a corrosive waste. Dispose of in compliance with all Federal, state, provincial, and local laws and regulations.
RCRA Hazard Class (undiluted product): D002 Corrosive Waste

14. TRANSPORT INFORMATION

DOT/TDG/IMDG: Proper shipping descriptions can vary by pack size. Please refer to the Diversey HazMat Library, **only available through Internet Explorer**, http://naextranet.diversey.com/dot/, for up to date shipping information.

DOT (Ground) Bill of Lading Description: UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (quaternary ammonium compounds, potassium hydroxide), 8, III

IMDG (Ocean) Bill of Lading Description: UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (quaternary ammonium compounds, potassium hydroxide), 8, III

15. REGULATORY INFORMATION

International Inventories at CAS# Level
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

U.S. Regulations
California Proposition 65: This product is not subject to the reporting requirements under California's Proposition 65.

RIGHT TO KNOW (RTK)

Ingredient(s)	CAS #	MARTK:	NJRTK:	PARTK:	RIRTK:
Water	7732-18-5	-	-	-	-
Alcohol ethoxylate	68002-97-1	-	-	-	-
Trisodium salt of NTA	5064-31-3	X	-	-	-
n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chloride	68391-01-5	-	-	-	-
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium	68956-79-6	-	-	-	-

chloride					
Potassium hydroxide	1310-58-3	X	X	X	X
Ethyl alcohol	64-17-5	X	X	X	-

CERCLA/ SARA

Ingredient(s)	CAS #	Weight %	CERCLA/SARA RQ (lbs)	Section 302 TPQ (lbs)	Section 313
Potassium hydroxide	1310-58-3	1 - 5%	1000		

SARA 311/312 Hazard Categories

Immediate: x
Delayed: -
Fire: -
Reactivity: -
Sudden Release of Pressure: -

Canadian Regulations

WHMIS hazard class: E Corrosive material.

Ingredient(s)	CAS #	NPRI
Ethyl alcohol	64-17-5	X

DIN No. : 02238620

Reason for revision: Not applicable
Prepared by: NAPRAC

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FOR INSTITUTIONAL AND FOOD PLANT USE
DEOSAN is a quaternary sanitizer/ detergent for one step cleaning and sanitizing of hard nonporous surfaces in food processing areas, hospitals, institutions, nursing homes and restaurants.

A.O.A.C. USE DILUTION TEST
DEOSAN passes 1.25 L/100 L against the following organisms:
Salmonella choleraesuis (ATCC #10708)
Staphylococcus aureus (ATTC #6538)
Pseudomonas aeruginosa (ATCC #15442)

DIRECTIONS FOR USE:
One step cleaning and Sanitizing (Food Processing Areas)
Spray or sponge-wipe with 625 mL/100 L of Deosan in warm or cold water. Rinse with potable water.
At 625 mL/100 L, Deosan yields 305 ppm active sanitizer.
Applies to equipment, counter tops, process surfaces, refrigerators, freezers, etc

One step Cleaning and Disinfecting (Excluding Food Processing Areas)
Floors - mop or scrub with 1.25 L/100 L of Deosan in warm or cold water. Walls and above floor surfaces - spray or sponge-wipe with 1.25 L/100 L of Deosan in warm or cold water, Rinse.
At 1.25 L/100 L, Deosan yields 610 ppm active sanitizer.

PRECAUTION:
KEEP OUT OF REACH OF CHILDREN. Corrosive to eyes and skin. Avoid contact with undiluted product. Do not take internally. Avoid contact with eyes. Avoid contamination of food. Store in a cool place, avoid freezing. Do not store in food processing or food storage areas.

FIRST AID:
If accidental contact occurs, flush eyes thoroughly with running water for 15 minutes and obtain medical attention. For contact of concentrate with skin, flush with running water for 15 minutes and obtain medical attention. If ingested, drink large volumes of water. Do not induce vomiting. Contact a physician immediately.

DISPOSAL:
Rinse the emptied container thoroughly. Dispose of the container in accordance with provincial requirements. For information on the disposal of unused, unwanted product and the cleanup of spills, contact the Provincial Regulatory Agency or the Manufacturer.

Product of Canada

POUR USAGE INSTITUTIONNEL ET ALIMENTAIRES
DEOSAN est un détergent/assainisseur quaternaire pour le lavage et l'assainissement en une opération des surfaces dures, non-poreuses et les aires de préparation des aliments, les hopitaux, les institutions, les maison de santé et les restaurants

EPREUVE DE DILUTION D'USAGE A.O.A.C.
DEOSAN passes a 1,25 L/100 L contre les organismes suivants:
Salmonelle choleraesus (ATTC # 10708)
Staphylocoque doré (ATTC #6538)
Pseudomonas aeruginosa (ATTC #15442)

MODE D'EMPLOI:
Nettoyage et assainissement en une opération (à l'exclusion des zones de préparation des aliments)
Gâchez ou lavez à l'éponge avec 625mL/100L de DEOSAN dans de l'eau chaude ou froide.
Rincez a l'eau potable. A 625 mL/100 L DEOSAN libere 305 ppm d'assainisseur.
Il s'applique à l'équipement, aux dessus de comptoirs, aux surfaces de préparation, aux refrigérateurs, aux congéla-teurs, etc.

Nettoyage et désinfection en une opération (à l'exclusion des zones de préparation des aliments)
Planchers - lavez ou brossez avec une solution de DEOSAN 1,25 L/100 L en utilant de l'eau chaude ou froide
Murs et surfaces au-dessus de plancher -gâchez ou lave a l'éponge avec 1,25
L/100 L de DEOSAN dans l'eau chaude ou froide. Rincez.
A 1,25 L/100 L de DEOSAN libere 610 ppm assainisseur actif.

PRECAUTION:
GARDER HORS DE LA PORTEE DES ENFANTS. Corrosif aux yeux et à la peau. Évitez le contact avec le produit non dilué. Ne pas avaler. Éviter tout contact avec les yeux. Évitez la contamination de la nourriture. Entreposez dans un endroit frais, évitez le gel. Évitez toute contamination des aliments lors de l'utilisation et de l'entreposage

PREMIERS SOINS :
En cas de contact accidental avec les yeux, rincer abondamment à l'eau courante durant 15 minutes et consulter un médecin. Pour le contact du concentré avec la peau, rincez à l'eau courante durant 15 minutes et consulter un médecin. En cas d'ingestion, buvez une grande quantité d'eau. Ne provoquez pas le vomissement. Communiquez immédiatement avec un médecin

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Diversey

Deosan®

Liquid Quaternary Sanitizer/Detergent Ⓤ
Detergent/Assainisseur Quaternaire Liquide

COMMERCIAL

kills Staphylococcus aureus, Salmonella choleraesuis and Pseudomonas aeruginosa
Il détruit Staphylocoque doré, la salmonelle choleraesuis et le Pseudomonas aeruginosa

Active Ingredients:
n-Alkyl (5% C_{12}, 60% C_{14}, 30% C_{16}, 5% C_{18}) Dimethyl Benzyl Ammonium Chloride 2.44%
n-Alkyl (68% C_{12}, 32% C_{14}) Dimethyl Ethyl Benzyl Ammonium Chloride 2.44%

Ingrédients Actifs:
Chlorure d'ammonium ethyle benzyle dimethyle n-Alkyl (5% C_{12}, 60% C_{14}, 30% C_{16}, 5% C_{18}) 2,44%
Chlorure d'ammonium ethyle benzyle dimethyle n Alkyl (68% C_{12}, 32% C_{14}) 2,44%

DIN 02238630

READ THE LABEL BEFORE USING
LIRE L'ETIQUETTE AVANT L'EMPLOI

WARNING/ AVERTISSEMENT

CORROSIVE/ CORROSIF

Divosan System

Net contents/Contenu net
205 L

Product no/No du produit
0032205

Diversey Canada, Inc. 2401 Bristol Circle • Oakville Ontario L6H 6P1 Canada • 800-668-7171

ÉLIMINATION:
Rincer à fond le récipient. Rendre le récipient vide impropre à tout usage additionnel.
Pour plus de renseignements sur l'élimination de la quantité inutilisée ou superflue et le nettoyage des lieux d'un déversement, communiquer avec l'Organisme provincial chargé de la Réglementation du produit ou avec le fabricant.

Produit au Canada

(L)

CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (QUATERNARY AMMONIUM COMPOUNDS, POTASSIUM HYDROXIDE), UN3267

UN3267

SKU #: 0032205

LOT #:

5537162 (11/2009)

Safety Data Sheet

According to Regulation (EC) No 1907/2006

Oxofoam VF5L

Revision: 2013-12-19 *Version: 04*

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Trade name: Oxofoam VF5L

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses:
For industrial use only.
AISE-P806 - Foam cleaner. Semi-automatic with venting process
AISE-P807 - Foam cleaner. Semi-automatic without venting process
AISE-P810 - Disinfection product. Semi-automatic process
Uses advised against: Uses other than those identified are not recommended.

1.3 Details of the supplier of the safety data sheet
Diversey local operating company

Contact details
Diversey local operating company

1.4 Emergency telephone number
Diversey local operating company

This International SDS is for information only. It does not meet all applicable regulatory requirements and does not replace the relevant statutory data sheet for your country.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
The product has been classified and labelled in accordance with Directive 1999/45/EC and corresponding national legislation.

Indication of danger
C - Corrosive
N - Dangerous for the environment

Risk phrases:
R31 - Contact with acids liberates toxic gas.
R35 - Causes severe burns.
R50 - Very toxic to aquatic organisms.

2.2 Label elements

C - Corrosive
N - Dangerous for the environment

Contains potassium hydroxide

Risk phrases:
R31 - Contact with acids liberates toxic gas.
R35 - Causes severe burns.
R50 - Very toxic to aquatic organisms.

Safety phrases:
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28a - After contact with skin, wash immediately with plenty of water.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61b - Avoid release to the environment. Refer to safety data sheet.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

2.3 Other hazards

No other hazards known. The product does not meet the criteria for PBT or vPvB in accordance with Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Ingredient(s)	EC number	CAS number	REACH number	Classification	Classification (EC) 1272/2008	Notes	Weight percent
potassium hydroxide	215-181-3	1310-58-3	01-2119487136-33	Xn;R22 C;R35	Skin Corr. 1A (H314) Met. Corr. 1 (H290) Acute Tox. 4 (H302)		10-20
sodium hypochlorite	231-668-3	7681-52-9	01-2119488154-34	R31 C;R34 Xi;R37 N;R50	Skin Corr. 1B (H314) Aquatic Acute 1 (H400) Met. Corr. 1 (H290) STOT SE 3 (H335) (EUH031)		1-3
sodium cumenesulphonate	248-983-7	28348-53-0	01-2119489411-37	Xi;R36	Eye Irrit. 2 (H319)		1-3
amines, C10-16 alkyldimethyl-,N-oxides	274-687-2	70592-80-2	No data available	Xn;R22 Xi;R38-41 N;R50	Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Acute Tox. 4 (H302) Skin Irrit. 2 (H315)		1-3
sulphonic acids, C13-17-sec-alkane, sodium salts	288-330-3	85711-69-9	No data available	Xi;R38-41	Eye Dam. 1 (H318) Skin Irrit. 2 (H315)		1-3

* Polymer.
For the full text of the R, H and EUH phrases mentioned in this Section, see Section 16.
Workplace exposure limit(s), if available, are listed in subsection 8.1.
[1] Exempted: ionic mixture. See Regulation (EC) No 1907/2006, Annex V, paragraph 3 and 4. This salt is potentially present, based on calculation, and included for classification and labelling purposes only. Each starting material of the ionic mixture is registered, as required.
[2] Exempted: included in Annex IV of Regulation (EC) No 1907/2006.
[3] Exempted: Annex V of Regulation (EC) No 1907/2006.
[4] Exempted: polymer. See Article 2(9) of Regulation (EC) No 1907/2006.

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information: If unconscious place in recovery position and seek medical advice.
Inhalation Remove from source of exposure. Get medical attention immediately.
Skin contact: Immediately wash off with plenty of water. Take off all contaminated clothing immediately. Get medical attention.
Eye contact; Wash off immediately with plenty of water. Get medical attention immediately.
Ingestion: Remove material from mouth. Immediately drink 1-2 glasses of water or milk. Get medical attention immediately.
Self-protection of first aider: Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: May cause bronchospasm in chlorine sensitive individuals. Severe irritant, may cause respiratory tract irritation.
Skin contact: Causes severe burns.
Eye contact: Causes severe or permanent damage.
Ingestion: Causes severe burns. Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.
Sensitisation: No known effects.

4.3 Indication of any immediate medical attention and special treatment needed
No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
No special hazards known.

5.3 Advice for firefighters
As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
In case of an incident in a confined area wear suitable respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

6.2 Environmental precautions
Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Dilute with plenty of water. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up
Absorb onto dry sand or similar inert material.

6.4 Reference to other sections
For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:
Handle in accordance with good industrial hygiene and safety practice. Do not mix with other products unless advised by Diversey. For advice on general occupational hygiene see subsection 8.2. For environmental exposure controls see subsection 8.2. For incompatible materials see subsection 10.5.

Prevention of fire and explosion:
No special precautions required.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage rooms / facilities:
In accordance with local and national regulations.

Combined storage in storage rooms / facilities:
In accordance with local and national regulations. Store away from acids.

Basic storage conditions
Store in original container. Keep container tightly closed. For conditions to avoid see subsection 10.4.

7.3 Specific end use(s)
No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Workplace exposure limits

Air limit values, if available:

Ingredient(s)	EU - Long term value(s)	EU - Short term value(s)	UK - Long term value(s)	UK - Short term value(s)
potassium hydroxide				2 mg/m³

Biological limit values, if available:

Recommended monitoring procedures, if available:

Additional exposure limits under the conditions of use, if available:

DNEL/DMEL and PNEC values
Human exposure
DNEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
potassium hydroxide	No data available	No data available	No data available	No data available
sodium hypochlorite	No data available	No data available	No data available	0.26
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

DNEL dermal exposure - Worker

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
potassium hydroxide	No data available	No data available	No data available	No data available
sodium hypochlorite	No data available	No data available	0.5 %	No data available
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

DNEL dermal exposure - Consumer

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
potassium hydroxide	No data available	No data available	No data available	No data available
sodium hypochlorite	No data available	No data available	0.5 %	No data available

sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

DNEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
potassium hydroxide	No data available	No data available	1	No data available
sodium hypochlorite	3.1	3.1	1.55	1.55
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

DNEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
potassium hydroxide	No data available	No data available	1	No data available
sodium hypochlorite	3.1	3.1	1.55	1.55
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

Environmental exposure

Environmental exposure - PNEC

Ingredient(s)	Surface water, fresh (mg/l)	Surface water, marine (mg/l)	Intermittent (mg/l)	Sewage treatment plant (mg/l)
potassium hydroxide	No data available	No data available	No data available	No data available
sodium hypochlorite	0.00021	0.000042	0.00026	0.03
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m³)
potassium hydroxide	No data available	No data available	No data available	No data available
sodium hypochlorite	No data available	No data available	No data available	0.00026
sodium cumenesulphonate	No data available	No data available	No data available	No data available
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available	No data available	No data available	No data available

8.2 Exposure controls

General health and safety measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing. Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes.

The following information applies for the uses indicated in subsection 1.2.
If available, please refer to the product information sheet for application and handling instructions.
Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Appropriate engineering controls: Use only in well ventilated areas. If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required. Where possible: use in automated/closed system and cover open containers. Transport over pipes. Filling with automatic systems. Use tools for manual handling of product.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

Personal protective equipment

Eye / face protection: Safety glasses or goggles (EN 166).

Hand protection: Chemical-resistant protective gloves (EN 374).
Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier.
Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact:
Material: butyl rubber
Penetration time: >= 480 min
Material thickness: >= 0.7 mm

Suggested gloves for protection against splashes:
Material: nitrile rubber
Penetration time: >= 30 min
Material thickness: >= 0.4 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection: Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur.

Respiratory protection: If exposure to liquid particles or splashes cannot be avoided use: half mask (EN 140) with particle filter P2 (EN 143) or full-face mask (EN 136) with particle filter P1 (EN 143) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen. Specific applications tools may be available to limit exposure. Please refer to the product information sheet for the possibilities.

Environmental exposure controls: Should not reach sewage water or drainage ditch undiluted.

Recommended safety measures for handling the diluted product::

Recommended maximum concentration (%): 5

Appropriate engineering controls: Ensure that foam equipment does not generate respirable particles. Ensure that ventilation is present with an exposure reduction efficacy of at least 90%.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

Personal protective equipment .

Eye / face protection: Safety glasses or goggles (EN 166) are always recommended for foam applications.

Hand protection: Chemical-resistant protective gloves (EN 374) are always recommended for foam applications.
Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier.
Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact:
Material: butyl rubber
Penetration time: >= 480 min
Material thickness: >= 0.7 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection: No special requirements under normal use conditions.

Respiratory protection: Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or aerosols should be avoided.

Environmental exposure controls: No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Information in this section refers to the product, unless it is specifically stated that substance data is listed

Method / remark

Physical State: Liquid
Colour: Clear, Pale, Yellow
Odour: Chlorine
Odour threshold: Not applicable
pH: > 12 (neat)
Melting point/freezing point (°C): Not determined
Initial boiling point and boiling range (°C): Not determined

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
potassium hydroxide	140	Method not given	1013
sodium hypochlorite	96-120	Method not given	1013
sodium cumenesulphonate	> 100	Method not given	

amines, C10-16 alkyldimethyl-,N-oxides	No data available		
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available		

Method / remark

Flash point (°C): ≈ Not applicable. closed cup
Sustained combustion: Not determined
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Upper/lower flammability limit (%): Not determined

Substance data, flammability or explosive limits, if available:

Method / remark

Vapour pressure: Not determined

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
potassium hydroxide	2300	Method not given	20
sodium hypochlorite	1700-2000	Method not given	20
sodium cumenesulphonate	No data available		
amines, C10-16 alkyldimethyl-,N-oxides	No data available		
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available		

Method / remark

Vapour density: Not determined
Relative density: 1.21 g/cm³ (20°C)
Solubility in / Miscibility with Water: Fully miscible

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
potassium hydroxide	No data available		
sodium hypochlorite	No data available		
sodium cumenesulphonate	Soluble		
amines, C10-16 alkyldimethyl-,N-oxides	No data available		
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available		

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Method / remark

Autoignition temperature: Not determined
Decomposition temperature: Not determined
Viscosity: Not determined
Explosive properties: Not explosive.
Oxidising properties: Not oxidising.

9.2 Other information
Surface tension (N/m): Not determined
Corrosion to metals
(according to IMDG/ADR regulation): Not determined

Substance data, dissociation constant, if available:

Ingredient(s)	Value	Method	Temperature (°C)
sodium hypochlorite	7.53 (pKa)	Method not given	

SECTION 10: Stability and reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid
None known under normal storage and use conditions.

10.5 Incompatible materials
Reacts with acids releasing toxic chlorine gas.

10.6 Hazardous decomposition products
Chlorine.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Mixtures
No test data is available on the mixture

Substance data, where relevant and available, are listed below.

Acute toxicity
Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
potassium hydroxide	LD_{50}	333	Rat	OECD 425	
sodium hypochlorite	LD_{50}	> 1100	Rat	Method not given	
sodium cumenesulphonate	LD_{50}	> 7000	Rat	Method not given	
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hypochlorite	LD_{50}	> 20000	Rabbit	Method not given	
sodium cumenesulphonate	LD_{50}	> 2000	Rabbit	Method not given	
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hypochlorite	LC_{50}	> 10.5	Rat	OECD 403 (EU B.2)	1
sodium cumenesulphonate	LC_{50}	> 770	Rat	Method not given	4
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Irritation and corrosivity
Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	Corrosive	Rabbit	Draize test	
sodium hypochlorite	Corrosive	Rabbit	Method not given	
sodium cumenesulphonate	No data available			
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	Corrosive		Method not given	
sodium hypochlorite	Severe damage	Rabbit	Method not given	
sodium cumenesulphonate	Irritant		Method not given	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	No data available			
sodium hypochlorite	Irritating to respiratory tract			
sodium cumenesulphonate	No data available			
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
potassium hydroxide	Not sensitising	Guinea pig	Method not given	
sodium hypochlorite	Not sensitising	Guinea pig	Method not given	
sodium cumenesulphonate	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	No data available			
sodium hypochlorite	No data available			
sodium cumenesulphonate	No data available			
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
potassium hydroxide		No data available				
sodium hypochlorite	NOAEL	50	Rat	Method not given	90	
sodium cumenesulphonate	NOAEL	763 - 3534		OECD 408 (EU B.26)	90	
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
sodium cumenesulphonate	NOAEL	440	Mouse	Method not given	90	
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
sodium cumenesulphonate		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
potassium hydroxide			No data available					
sodium hypochlorite			No data available					
sodium cumenesulphonate	Dermal	NOAEL	727	Mouse	Method not given	24 month(s)		
amines, C10-16 alkyldimethyl-,N-oxides			No data available					
sulphonic acids, C13-17-sec-alkane, sodium salts			No data available					

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mixture data:
Based on available data, the classification criteria are not met.

Substance data, where relevant and available:

Carcinogenicity

Ingredient(s)	Effect
potassium hydroxide	No evidence for carcinogenicity, negative test results
sodium hypochlorite	No evidence for carcinogenicity, negative test results
sodium cumenesulphonate	No evidence for carcinogenicity, negative test results
amines, C10-16 alkyldimethyl-,N-oxides	No data available
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
potassium hydroxide	No evidence for mutagenicity, negative test results	Method not given	No data available	
sodium hypochlorite	No evidence for mutagenicity, weight of evidence	OECD 471 (EU B.12/13)	No evidence for mutagenicity, negative test results	Method not given
sodium cumenesulphonate	No evidence for mutagenicity, negative test results	Method not given	No evidence for mutagenicity, negative test results	OECD 474 (EU B.12)
amines, C10-16 alkyldimethyl-,N-oxides	No data available		No data available	
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available		No data available	

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
potassium hydroxide			No data available				No evidence for reproductive toxicity
sodium hypochlorite	NOAEL	Developmental toxicity	5 (Cl)	Rat	Not known		No evidence for reproductive toxicity
sodium cumenesulphonate	NOAEL	Teratogenic effects	> 3000	Rat	Non guideline test		
amines, C10-16 alkyldimethyl-,N-oxides			No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts			No data available				

Potential adverse health effects and symptoms
Effects and symptoms related to the product, if any, are listed in subsection 4.2.

SECTION 12: Ecological information

12.1 Toxicity
Mixtures
No test data is available on the mixture.

Substance data, where relevant and available, are listed below

Aquatic short-term toxicity
Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide	LC_{50}	80	Various species	Method not given	24
sodium hypochlorite	LC_{50}	0.06	Various species	Method not given	96
sodium cumenesulphonate	LC_{50}	> 1000	Fish	EPA-OPPTS	96
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide	EC_{50}	30 - 1000	Daphnia magna Straus	Method not given	
sodium hypochlorite	EC_{50}	0.026	Not specified	Method not given	48
sodium cumenesulphonate	EC_{50}	> 1000	Daphnia	EPA-OPPTS	48
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hypochlorite	NOEC	0.0021	Not specified	Method not given	168
sodium cumenesulphonate	$E_r C_{50}$	310	Not specified		72
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
potassium hydroxide		No data available			
sodium hypochlorite		No data available			
sodium cumenesulphonate		No data available			
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
potassium hydroxide		No data available			
sodium hypochlorite		0.375	Activated sludge	Method not given	
sodium cumenesulphonate	$E_r C_{50}$	> 1000	Bacteria	OECD 209	3 hour(s)
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
potassium hydroxide		No data available				
sodium hypochlorite	NOEC	0.04	Menidia pelinsulae	Method not given	96 hour(s)	
sodium cumenesulphonate		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
sodium cumenesulphonate		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
sodium cumenesulphonate		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				

sulphonic acids, C13-17-sec-alkane, sodium salts		No data available				

Terrestrial toxicity
Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Terrestrial toxicity - plants, if available:

Terrestrial toxicity - birds, if available:

Terrestrial toxicity - beneficial insects, if available:

Terrestrial toxicity - soil bacteria, if available:

12.2 Persistence and degradability

Abiotic degradation
Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
sodium hypochlorite	115 day(s)	Indirect photo-oxidation		

Abiotic degradation - hydrolysis, if available:

Abiotic degradation - other processes, if available:

Biodegradation
Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT_{50}	Method	Evaluation
potassium hydroxide					Not applicable (inorganic substance)
sodium hypochlorite					Not applicable (inorganic substance)
sodium cumenesulphonate					Not readily biodegradable.
amines, C10-16 alkyldimethyl-,N-oxides					No data available
sulphonic acids, C13-17-sec-alkane, sodium salts					No data available

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
potassium hydroxide	No data available		Not relevant, does not bioaccumulate	
sodium hypochlorite	-3.42	Method not given	No bioaccumulation expected	
sodium cumenesulphonate	-1.1	Method not given	Low potential for bioaccumulation	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
potassium hydroxide	No data available				
sodium hypochlorite	No data available				
sodium cumenesulphonate	No data available				
amines, C10-16 alkyldimethyl-,N-oxides	No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available				

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
potassium hydroxide	No data available				Low potential for adsorption to soil
sodium hypochlorite	1.12				High potential for mobility in soil
sodium cumenesulphonate	No data available				

amines, C10-16 alkyldimethyl-,N-oxides	No data available				
sulphonic acids, C13-17-sec-alkane, sodium salts	No data available				

12.5 Results of PBT and vPvB assessment
Substances that fulfill the criteria for PBT/vPvB, if any, are listed in section 3.

12.6 Other adverse effects
No other adverse effects known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Waste from residues / unused products: The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.
European Waste Catalogue: 20 01 15* - alkalines.

Empty packaging
Recommendation: Dispose of observing national or local regulations.
Suitable cleaning agents: Water, if necessary with cleaning agent.

SECTION 14: Transport information


ADR, RID, ADN, IMO/IMDG, ICAO/IATA
14.1 UN number: 1719
14.2 UN proper shipping name:
Caustic alkali liquid, n.o.s. (potassium hydroxide , hypochlorite)
14.3 Transport hazard class(es):
Class: 8
Label(s): 8
14.4 Packing group: II
14.5 Environmental hazards:
Environmentally hazardous: Yes
Marine pollutant: Yes
14.6 Special precautions for user: None known.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: The product is not transported in bulk tankers.

Other relevant information:
ADR
Classification code: C5
Tunnel restriction code: E
Hazard identification number: 80
IMO/IMDG
EmS: F-A, S-B

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Authorisations or restrictions (Regulation (EC) No 1907/2006, Title VII respectively Title VIII): Not applicable.

Ingredients according to EC Detergents Regulation 648/2004
anionic surfactants, chlorine-based bleaching agents, non-ionic surfactants, phosphates < 5%

15.2 Chemical safety assessment
A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

MSDS code: DE5D2900 **Version:** 04 **Revision:** 2013-12-19

Reason for revision:
SDS sections updated:, 3, 8, 9, 11, 12, 13, 16

Full text of the R, H and EUH phrases mentioned in section 3:
• R35 - Causes severe burns.
• R22 - Harmful if swallowed.
• R34 - Causes burns.
• R50 - Very toxic to aquatic organisms.
• R31 - Contact with acids liberates toxic gas.
• R36 - Irritating to eyes.
• R41 - Risk of serious damage to eyes.
• R38 - Irritating to skin.
• H302 - Harmful if swallowed.
• H314 - Causes severe skin burns and eye damage.
• H315 - Causes skin irritation.
• H318 - Causes serious eye damage.
• H319 - Causes serious eye irritation.
• H335 - May cause respiratory irritation.
• H400 - Very toxic to aquatic life.
• EUH031 - Contact with acids liberates toxic gas.

Abbreviations and acronyms:
• AISE - The international Association for Soaps, Detergents and Maintenance Products
• DNEL - Derived No Effect Limit
• EUH - CLP Specific hazard statement
• PBT - Persistent, Bioaccumulative and Toxic
• PNEC - Predicted No Effect Concentration
• REACH number - REACH registration number, without supplier specific part
• vPvB - very Persistent and very Bioaccumulative

End of Safety Data Sheet

Oxonia Active

PRODUCT DESCRIPTION

Oxonia Active is a peroxyacetic acid sanitizer for use in CIP sanitizing in the dairy, beverage, and food processing industries.

BENEFITS

Promotes Quality Assurance

- Enhances finished product quality and shelf life when used in a total Ecolab product and professional services program
- Fast, broad spectrum kill
- Superior sanitizing activity in most conditions including colder water temperatures
- pH tolerant - effective sanitizing activity at even neutral pH's
- Helps protect processing equipment investment - use solutions non-corrosive to stainless steel and aluminum surfaces when used at recommended concentrations

Saves Time and Labour

- Non-foaming formulation minimizes CIP cleaning time and improves CIP efficiency
- Convenient to use - provides acidified rinse and sanitizer in one step - no post-rinse required

Helps Reduce Cleaning Costs

- Low phosphorus formulation minimizes phosphate-related effluent fees
- Sanitizes during acidified rinse cycle to reduce effluent discharges

PEROXYACETIC ACID SANITIZER

Oxonia Active

PROPERTIES

Form	Liquid	pH (100%)	0.49
Colour	Colourless	Spec. Grav. @ 20°C	1.12
Odour	Pungent		

DIRECTIONS FOR USE

Sanitizing Food Contact Surfaces: Prior to sanitizing, remove gross food particles, then wash with a detergent solution, followed by a potable water rinse. Sanitize with a concentration of 2-3.5 mL Oxonia Active concentrate per litre of water (0.20-0.35% concentration). At this dilution Oxonia Active is effective against *Staphylococcus aureus, Escherichia coli, Listeria monocytogenes, Salmonella typhimurium, Pseudomonasaeruginosa, Saccharomyces cerevisae* and *vibrio cholerae*. Also effective against organisms found in the brewing industry such as *Pediococcos Damanosus* and *Lactobacillus buchneri*. Use immersion, coarse spray or circulation techniques as appropriate to the equipment. All surfaces should be exposed to the sanitizing solution for a period of not less than two minutes unless otherwise specified by governing sanitary code. Drain thoroughly and allow to air dry.
Do not rinse. Approved "No Rinse Sanitizer"

Final Sanitizing Bottle Rinse: Oxonia Active may be used as a final sanitizing rinse for returnable and non-returnable bottles at a 0.2% dilution (2 mL/L).

Fogging: To sanitize hard room surfaces as an adjunct to acceptable manual cleaning and disinfecting of room surfaces: Prior to fogging, food products and packaging materials must be removed from the room or carefully protected. Fog desired areas using one litre per 1000 cu ft. of room area with a 0.3% v/v Oxonia Active solution. Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging. Allow surfaces to drain thoroughly before operations are resumed.

Sterilization of Manufacturing, Filling and Packaging Equipment in Aseptic Processes: Prior to use of this product, remove gross soil particles from processing surfaces, then wash with a recommended detergent solution, followed by a potable water rinse. Prepare a sterilizing solution by diluting 50mL (5% v/v) Oxonia Active concentrate per litre of water. Circulate, coarse spray, or flood the sterilizing solution through the system. All surfaces should be exposed to the sterilizing solution for a minimum exposure time based on the product solution temperature.
The following time and temperature relationships are required:

OXONIA ACTIVE CONCENTRATION	TEMPERATURE	TIME
5%	20°C	6 HOURS
5%	50°C	20 MINUTES
5%	80°C	5 MINUTES

Rinse surfaces completely with either a sterile water or potable water rinse. For food-contact surfaces, follow with a sanitizing solution of Oxonia Active. Allow surfaces to drain thoroughly prior to any food product contact.
NOTE: This product in its use solutions is compatible with stainless steel and aluminum surfaces. If product is intended to be used on any other surface, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use.
ALL FOOD CONTACT SURFACES MUST BE THOROUGHLY RINSED WITH POTABLE WATER AFTER USE OF THIS PRODUCT AT CONCENTRATIONS GREATER THAN 0.5% v/v.
Consult your Ecolab Representative for specific use instructions and recommended dispensing equipment.

For cautionary and first aid information, consult the Material Safety Data Sheet (MSDS) or product label.

STATEMENT OF ASSURANCE

This product is effective under the intended conditions of use as outlined on the product label or specified in a Sanitation Standard Operating Procedure (SSOP). Oxonia Active is registered for use in federally-inspected food establishments in Canada provided it is in keeping with the instructions outlined on the label.

ECOLAB SUSTAINABILITY POLICY

We have a commitment to our customers to provide effective programs that help protect the health and safety of their customers and employees. We will sell products or services that maximize performance, limit total environmental impact, and are safe as our customers commonly use them. We will inform our customers of the environmental impacts of our products or services, and of their correct use.

Distributed in Canada by Ecolab Food and Beverage
5105 Tomken Road, Mississauga, ON, Canada L4W 2X5
1.800.465.1914
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ECOLAB®

RM0062

Material Safety Data Sheet

OXONIA ACTIVE

ECOLAB

1. Product and company identification

Trade name of product : OXONIA ACTIVE

Product use : Sanitiser.

Product dilution information : Up to 1.4 oz/4 gal or 2 mL/L in water

Supplier's information : Ecolab Food and Beverage
5105 Tomken Road
Mississauga ON L4W 2X5
1-800-352-5326

Code : 979252-04

Date of issue : **07-January-2013**

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

2. Hazards identification

	Product AS SOLD	Product AT USE DILUTION
Physical state	: Liquid.	Liquid.
Emergency overview	: DANGER !	CAUTION !
	CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS. MAY BE FATAL IF INHALED. OXIDISER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CAUSES RESPIRATORY TRACT IRRITATION. HARMFUL IF SWALLOWED.	No specific hazard.
	Do not ingest. Do not get in eyes, on skin or on clothing. Do not breathe vapour or spray. Keep away from heat, sparks and flame. Store only in the original, properly sealed vented container. Avoid contact with combustible materials. Keep away from heat and direct sunlight. Decomposes on heating. Use only with adequate ventilation. Wash thoroughly after handling.	No specific hazard.

Routes of entry : Skin contact, Eye contact, Inhalation, Ingestion

Potential acute health effects

	Product AS SOLD	Product AT USE DILUTION
Eyes	: Corrosive to eyes.	No known significant effects or critical hazards.
Skin	: Corrosive to the skin.	No known significant effects or critical hazards.
Inhalation	: May be fatal if inhaled. Severely irritating to the respiratory system.	No known significant effects or critical hazards.
Ingestion	: Harmful if swallowed. Causes burns to mouth, throat and stomach.	No known significant effects or critical hazards.

See toxicological information (Section 11)

3. Composition/information on ingredients

Product AS SOLD

Name	CAS number	% by weight
HYDROGEN PEROXIDE	7722-84-1	15 - 40
ACETIC ACID	64-19-7	7 - 13
Peroxyacetic acid	79-21-0	5- 10

Product AT USE DILUTION

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4. First-aid measures

	Product AS SOLD	Product AT USE DILUTION
Eye contact	: In case of contact, immediately flush eyes with cool running water. Remove contact lenses and continue flushing with plenty of water for at least 15 minutes. Get medical attention immediately.	No known effect after eye contact. Rinse with water for a few minutes.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.	No known effect after skin contact. Rinse with water for a few minutes.
Inhalation	: If inhaled, remove to fresh air. If exposed person is not breathing, give artificial respiration or oxygen applied by trained personnel. Get medical attention immediately.	No special measures required. Treat symptomatically.
Ingestion	: If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.	Get medical attention if symptoms occur.

5. Fire-fighting measures

Product AS SOLD

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special remarks on fire hazards : Not available.

Special remarks on explosion hazards : Not available.

Fire-fighting media and instructions : Use an extinguishing agent suitable for the surrounding fire.

Use water spray to keep fire-exposed containers cool. Dyke area of fire to prevent runoff.

Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion. In a fire or if heated, a pressure increase will occur and the container may burst.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

	Product AS SOLD	Product AT USE DILUTION
Personal precautions	: Initiate company's spill response procedures immediately. Keep people out of area. Put on appropriate personal protective equipment (see section 8). Do not touch or walk through spilt material.	Use personal protective equipment as required.
Environmental precautions	: Avoid contact of spilt material and runoff with soil and surface waterways.	Avoid contact of large amounts of spilt material and runoff with soil and surface waterways.
Methods for cleaning up	: Follow company's spill procedures. Keep people away from spill. Put on appropriate personal protective equipment (see section 8). Absorb/neutralise liquid material. Use a tool to scoop up solid or absorbed material and put into appropriate labelled container. Use a water rinse for final clean-up.	Use a water rinse for final clean-up.

7. Handling and storage

	Product AS SOLD	Product AT USE DILUTION
Handling	: Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe vapour or spray. Avoid contact with combustible materials. Keep container closed. Keep only in the original container. Use only with adequate ventilation. Wash thoroughly after handling. Do not mix with bleach or other chlorinated products - will cause chlorine gas.	Wash thoroughly after handling.
Storage	: Keep out of reach of children. Keep container in a cool, well-ventilated area. Keep container tightly closed. Store only in the original, properly sealed vented container. Separate from reducing agents and combustible materials. Store between the following temperatures: -10 and 40°C	Keep out of reach of children.

8. Exposure controls/personal protection

	Product AS SOLD	Product AT USE DILUTION
Engineering measures	: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Personal protection		
Eyes	: Use chemical splash goggles. For continued or severe exposure wear a face shield over the goggles.	No protective equipment is needed under normal use conditions.
Hands	: Use chemical-resistant, impervious gloves.	No protective equipment is needed under normal use conditions.
Skin	: Use synthetic apron, other protective equipment as necessary to prevent skin contact.	No protective equipment is needed under normal use conditions.
Respiratory	: Ensure an MSHA/NIOSH-approved respirator or equivalent is used.	No special protection is required.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
acetic acid	US ACGIH 2/2010	10	25	-	15	37	-	-	-	-	
	AB 4/2009	10	25	-	15	37	-	-	-	-	
	BC 9/2010	10	-	-	15	-	-	-	-	-	
	ON 7/2010	10	25	-	15	37	-	-	-	-	
	QC 6/2008	10	25	-	15	37	-	-	-	-	
Hydrogen peroxide	US ACGIH 2/2010	1	1.4	-	-	-	-	-	-	-	
	AB 4/2009	1	1.4	-	-	-	-	-	-	-	[3]
	BC 9/2010	1	-	-	-	-	-	-	-	-	
	ON 7/2010	1	1.4	-	-	-	-	-	-	-	
	QC 6/2008	1	1.4	-	-	-	-	-	-	-	

[3]Skin sensitisation

9. Physical and chemical properties

	Product AS SOLD	Product AT USE DILUTION
Physical state	: Liquid.	Liquid.
Flash point	: > 100°C Product does not support combustion.	>100 °C (Closed cup)
Colour	: Colourless.	Clear
Odour	: Pungent	Faint odour
pH	: 0.49 [Conc. (% w/w): 100%]	2 to 3 [Conc. (% w/w): 100%]
Boiling/condensation point	: Not available.	
Melting/freezing point	: Not available.	
Relative density	: 1.12	
Vapour pressure	: Not available.	
Vapour density	: Not available.	
Odour threshold	: Not available.	
Evaporation rate	: Not available.	
Viscosity	: Not available.	
Dispersibility properties	: Not available.	
Solubility	: Soluble in the following materials: cold water and hot water.	
LogK$_{ow}$	: Not available.	

10. Stability and reactivity

Product AS SOLD

Stability : The product is stable. Decomposes on heating. Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions of instability : Not available.

Reactivity : Extremely reactive or incompatible with the following materials: alkalis.
Highly reactive or incompatible with the following materials: metals.
Reactive or incompatible with the following materials: organic materials.
Do not mix with bleach or other chlorinated products - will cause chlorine gas.

Hazardous decomposition products : Oxygen

Hazardous polymerisation : Under normal conditions of storage and use, hazardous polymerisation will not occur.

11. Toxicological information

Potential acute health effects

	Product AS SOLD	Product AT USE DILUTION
Eyes	: Corrosive to eyes.	No known significant effects or critical hazards.
Skin	: Corrosive to the skin.	No known significant effects or critical hazards.
Inhalation	: May be fatal if inhaled. Severely irritating to the respiratory system.	No known significant effects or critical hazards.
Ingestion	: Harmful if swallowed. Causes burns to mouth, throat and stomach.	No known significant effects or critical hazards.

Product AS SOLD

Potential chronic health effects

Carcinogenic effects	: No known significant effects or critical hazards.
Mutagenic effects	: No known significant effects or critical hazards.
Teratogenic effects	: No known significant effects or critical hazards.
Reproductive effects	: No known significant effects or critical hazards.
Sensitization to Product	: No known significant effects or critical hazards.
Synergistic products (toxicologically)	: Not available.

Toxicity data

Product/ingredient name	Test	Route	Result	Species
acetic acid	LD50	Dermal	1060 mg/kg	Rabbit
	LD50	Oral	3310 mg/kg	Rat
	LC50	Inhalation	>40 mg/l	Rat
Hydrogen peroxide	LD50	Dermal	>2000 mg/kg	Rabbit
	LD50	Oral	486 mg/kg	Rat
peracetic acid	LD50	Dermal	>12000 mg/kg	Rat
	LD50	Oral	263 to 1026 mg/kg	Rat
	LD50	Oral	210 mg/kg	Mouse
	LD50	Oral	10 mg/kg	Guinea pig

Other adverse effects

Target organs : Contains material which may cause damage to the following organs: blood, lungs, liver, upper respiratory tract, central nervous system (CNS), teeth, testes.

12. Ecological information

Ecotoxicity : Not reported

13. Disposal considerations

	Product AS SOLD	Product AT USE DILUTION
Waste disposal	: Avoid disposal. Attempt to use product completely in accordance with intended use. Disposal should be in accordance with applicable regional, national and local laws and regulations.	Diluted product can be flushed to sanitary sewer. Discard empty container in trash.

14. Transport information

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

Product AS SOLD

TDG

TDG Classification	UN3109
TDG Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
Class	5.2 (8)
Packing group	II

IMO/IMDG

IMO/IMDG Classification	UN3109
IMO/IMDG Proper shipping name	Organic peroxide type F, solution (Peroxyacetic acid, Type F, stabilized)
Class	5.2 (8)
Packing group	-

For transport in bulk, see shipping documents for specific transportation information.

Product AT USE DILUTION
Not intended for transport.

15. Regulatory information

	Product AS SOLD	Product AT USE DILUTION
WHMIS	: Class C: Oxidising material. Class E: Corrosive material	Not hazardous by WHMIS criteria.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information

Product AS SOLD

Hazardous Material Information System (U.S.A.) :

Health	*	3
Flammability		1
Physical hazards		1

National Fire Protection Association (U.S.A.) :

Product AT USE DILUTION

Health	0
Flammability	0
Physical hazards	0

16. Other information

Date of issue : 07-January-2013

Responsible name : Regulatory Affairs
1-800-352-5326

Indicates information that has changed from previously issued version.

Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

ECOLAB®

INFORMATION ONLY

4421

Net Contents/Contenu Net: 190 L

OXONIA ACTIVE

Peroxide Based Sanitizer

Assainissant à base de peroxyde

For Food Plant & Industrial Use Only

DIRECTIONS:

Sanitizing Food Contact Surfaces: Prior to sanitizing, remove gross food particles, then wash with a detergent solution, followed by a potable water rinse. Sanitize with a concentration of 2-3.5 mL Oxonia Active concentrate per 1 litre of water (0.20-0.35% concentration). At this dilution Oxonia Active is effective against *Staphylococcus aureus, Escherichia coli, Listeria monocytogenes, Salmonella typhimurium, Pseudomonas aeruginosa, Saccharomyces cerevisiae* and *Aspergillus niger* in 30 seconds. Oxonia Active is also effective against organisms found in the brewing industry such as *Pediococcus damnosus* and *Lactobacillus buchneri*. Use immersion, coarse spray or circulation techniques as appropriate to the equipment. All surfaces should be exposed to the sanitizing solution for a period of not less than two minutes unless otherwise specified by governing sanitary code. Drain thoroughly and allow to air dry.

Do not rinse. Accepted as a no rinse sanitizer where used in Canadian food processing facilities.

For mechanical application, use-solution may not be re-used for sanitizing applications.

Final Sanitizing Bottle Rinse: Oxonia Active may be used as a final sanitizing rinse for returnable and non-returnable bottles at a 0.2% dilution (2 mL/L).

Fogging: To sanitize hard room surfaces as an adjunct to acceptable manual cleaning and disinfecting of room surfaces. Prior to fogging, food products and packaging materials must be removed from the room or carefully protected. Fog treated areas using one litre per 1000 cu ft. (28.3 cu metres) of room area with a 0.3% v/v Oxonia Active solution. Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging. Allow surfaces to drain thoroughly before operations are re-started.

Sterilization of Manufacturing, Filling and Packaging Equipment in Aseptic Processes: Prior to use of this product, remove gross soil particles from processing surfaces, then wash with a recommended detergent solution, followed by a potable water rinse. Prepare a sterilizing solution by diluting 50 mL (5% v/v) Oxonia Active concentrate per each litre of water. Circulate, coarse spray, or flood the sterilizing solution through the system. All surfaces should be exposed to the sterilizing solution for a minimum exposure time based on the product solution temperature. The following time and temperature relationships are required:

OXONIA ACTIVE

CONCENTRATION	TEMPERATURE	TIME
5%	20°C	6 HOURS
5%	50°C	20 MINUTES
5%	80°C	5 MINUTES

Rinse surfaces completely with either a sterile water or potable water rinse. For food-contact surfaces, follow with a sanitizing solution of Oxonia Active. Allow surfaces to drain thoroughly prior to any food product contact.

NOTE: This product in its use solutions is compatible with stainless steel and aluminum surfaces. If product is ever intended to be used on any other surface, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use. Consult your Ecolab Representative for specific use instructions and recommended dispensing equipment.

ALL FOOD CONTACT SURFACES MUST BE THOROUGHLY RINSED WITH POTABLE WATER AFTER USE OF THIS PRODUCT AT CONCENTRATIONS GREATER THAN 0.5% v/v.

AVOID FOOD CONTAMINATION DURING APPLICATION AND STORAGE. Do not store in food processing areas.

Ecolab - 370 Wabasha Street N - St Paul MN 55102-1390 USA - tel. 1 800 352 1392
Distributed by Ecolab | Distribué par Ecolab
5105 Tomken Road - Mississauga ON L4W 2X5 Canada - tel. 1 800 465 1914

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www.ecolab.com 73676315056417

Usage Industriel et Usines Alimentaires Seulement

MODE D'EMPLOI:

Assainissement des surfaces destinées à un contact avec des aliments: Avant d'assainissement, nettoyer les gros des saletés, laver à l'aide d'une solution nettoyante et rincer à l'eau potable. Assainir au moyen d'une solution contenant 2 à 3,5 mL d'Oxonia Active concentré par litre d'eau (concentration de 0,20 à 0,35%). À cette concentration, Oxonia Active est efficace contre les organismes suivants: *Staphylococcus aureus, Escherichia coli, Listeria monocytogenes, Salmonella typhimurium, Pseudomonas aeruginosa, Saccharomyces cerevisiae* et *Aspergillus niger* en 30 secondes. Cet équivalent efficace contre les organismes présents dans les brasseries comme les *Pediococcus damnosus* et *Lactobacillus buchneri*. Appliquer par immersion, aspersion grossière ou circulation, dépendant du matériel à traiter. La durée de contact du matériel avec la solution devrait être d'au moins deux minutes sauf indication contraire d'un règlement sanitaire en vigueur. Égoutter soigneusement et laisser sécher.

Ne pas rincer. Accepté comme un assainisseur sans rinçage lorsqu'utilisé dans des entreprises de transformation alimentaire canadiennes.

Lors d'un usage pour des appareils mécaniques, la solution utilisée ne peut être réutilisée pour de l'assainissement.

Rinçage assainissant final des bouteilles: Oxonia Active peut être utilisé pour le rinçage assainissant final des bouteilles consignées et non consignées à une concentration de 0,2% (2 mL/L).

Fumigation: Pour assainir les surfaces dures d'une pièce en plus de nettoyage et de la désinfection manuels. Avant d'appliquer les brouillards, les produits alimentaires et le matériel d'emballages doivent être sortis de la pièce ou soigneusement protégés. Appliquer les traitements sur les surfaces à traiter en utilisant 1 litre par 1000 pieds cubes de volume (28,3 mètres cubes) de la pièce avec une solution de 0,3% v/v d'Oxonia Active. Le personnel devrait évacuer les lieux lors de l'application des brouillards et ne pas les réutiliser pendant au moins deux heures. Laisser égoutter soigneusement les surfaces avant de remettre les activités.

Stérilisation du matériel de fabrication, de remplissage et d'emballage dans les conditionnements aseptiques: Avant d'appliquer ce produit, enlever le gros des saletés sur les surfaces à traiter. Puis, laver les surfaces à l'aide d'une solution nettoyante recommandée et rincer à l'eau potable. Préparer une solution stérilisante en diluant 50 mL d'Oxonia Active concentré (5% v/v) par litre d'eau. Appliquer la solution assainissante par circulation, pulvérisation ou ruissellement. La durée de contact des surfaces avec la solution varie en fonction de la température de la solution. Les durées de contact et températures correspondantes sont exposées ci-dessous:

OXONIA ACTIVE

CONCENTRATION	TEMPERATURE	DURÉE DE CONTACT
5%	20°C	6 HEURES
5%	50°C	20 MINUTES
5%	80°C	5 MINUTES

Rincer soigneusement les surfaces à l'eau stérile ou l'eau potable. Pour les surfaces destinées à un contact avec des aliments, assainir à l'aide d'une solution assainissante d'Oxonia Active. Laisser soigneusement égoutter les surfaces avant de procéder à tout contact avec des aliments.

NOTE: Ce produit, sous forme de solutions de travail est compatible avec les surfaces en acier inoxydable et en aluminium. En cas d'utilisation sur d'autres surfaces, vérifier la compatibilité du produit en testant au préalable sur une surface cachée avant d'appliquer le produit sur toute la surface. Consulter votre représentant Ecolab pour des instructions spécifiques d'utilisation et pour connaître les équipements de dosage recommandés.

TOUTES LES SURFACES DESTINÉES À UN CONTACT AVEC DES ALIMENTS DOIVENT ÊTRE SOIGNEUSEMENT RINCÉES À L'EAU POTABLE APRÈS L'APPLICATION DE CE PRODUIT À DES CONCENTRATIONS SUPÉRIEURES À 0,5% V/V.

ÉVITER LA CONTAMINATION DES ALIMENTS DURANT L'APPLICATION ET L'ENTREPOSAGE. Ne pas ranger dans les lieux de transformation de produits alimentaires.

EPA Est. 6915-IL-1 (53), 1677-8-2 (2), 1677-NJ-1 (8), 1677-TX-1 (6), 1677-GA-1 (8), 1677-CA-1 (2), 1677-MN-1 (F), 1677-PA-1 (8), 1324-CA-1 (F), 1677-OH-1 (8), 1677-CA-2 (8), 1677-MO-1 (8), 1677-WV-1 (5).

Supersept refers to last letter of date code

L'expose il fait référence à la première lettre du code de la date

For Export Only - 40 CFR Part 168.75(b)(1)

Pour exportation seulement - 40 CFR section 168.75(b)(1)

0 12546 00419 2

Oxonia Active

KEEP OUT OF REACH OF CHILDREN

DANGER!

CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS. CAUSES RESPIRATORY TRACT IRRITATION. HARMFUL IF SWALLOWED. Deliberately forming and breathing aerosols may be fatal. OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. Wear impervious gloves, chemical splash goggles and apron. Avoid breathing vapors, spray or mists. Avoid contact with combustible materials. Avoid all possible sources of ignition (spark or flame). Use only with adequate ventilation. Wash thoroughly after handling.

FIRST AID

Eye Contact: In case of contact, immediately flush eyes with cool running water. Remove contact lenses and continue flushing with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation: If inhaled, remove to fresh air. If exposed person is not breathing, give artificial respiration or oxygen applied by trained personnel. Get medical attention.

Ingestion: If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

READ MATERIAL SAFETY DATA SHEET (MSDS) BEFORE USING THIS PRODUCT

EMERGENCY HEALTH INFORMATION: 1 800 328 0026. If located outside the United States and Canada, call collect 1 651 222 5352 (number is in the US).

CONSERVER HORS DE LA PORTÉE DES ENFANTS

DANGER!

PROVOQUE DES BRÛLURES DU TUBE DIGESTIF, DES YEUX ET DE LA PEAU. PROVOQUE DES IRRITATIONS RESPIRATOIRES. NOCIF EN CAS D'INGESTION. Une utilisation formant un aérosol de façon délibérée ainsi que l'inhalation peuvent être fatales. COMBURANT. PEUT S'ENFLAMMER AU CONTACT DE DIVERSES SUBSTANCES. Porter des gants imperméables, des lunettes de protection à l'épreuve des éclaboussures de produits chimiques et un tablier. Éviter d'inhaler les vapeurs, les embruns ou les brouillards. Éviter tout contact avec des matières combustibles. Éliminer toutes les sources possibles d'inflammation (étincelles ou flammes). Utiliser uniquement dans un environnement bien aéré. Laver abondamment après usage.

PREMIERS SOINS

Contact avec les yeux: En cas de contact avec les yeux, rincer immédiatement les yeux à l'eau courante tiède. Retirer les lentilles de contact et continuer de rincer les yeux à grande eau pendant au moins 15 minutes. Consulter un médecin immédiatement.

Contact avec la peau: En cas de contact, rincer immédiatement la peau à grande eau pendant au moins 15 minutes tout en enlevant les vêtements et les chaussures contaminés. Consulter un médecin immédiatement. Laver les vêtements avant de les réutiliser. Laver soigneusement les chaussures avant de les remettre.

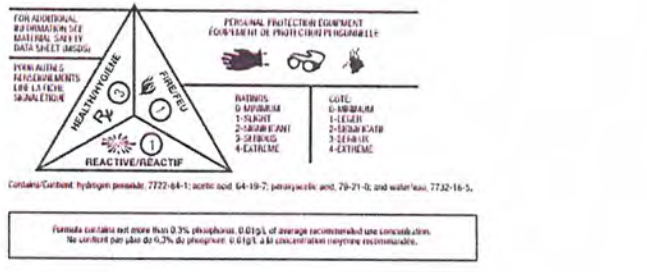
Inhalation: En cas d'inhalation, déplacer la personne à l'air frais. Si la personne exposée ne respire pas, le personnel formé doit donner la respiration artificielle ou de l'oxygène. Consulter un médecin.

Ingestion: En cas d'ingestion de la matière et si la personne exposée est consciente, lui donner de petites quantités d'eau à boire. Ne pas provoquer le vomissement. Ne rien faire ingérer à une personne inconsciente. Consulter un médecin immédiatement.

LIRE LA FICHE SIGNALÉTIQUE (FS) AVANT D'UTILISER CE PRODUIT

INFORMATION DE SANTÉ D'URGENCE: 1 800 328 0026. Si à l'extérieur des États-Unis et du Canada, appeler à frais virés le 1 651 222 5352 (numéro aux États-Unis).

Ecolab



Contains/Contient: hydrogen peroxide, 7722-64-1; acetic acid, 64-19-7; peroxyacetic acid, 79-21-0; and water/eau, 7732-18-5.

Formula contains not more than 0.3% phosphorus. 0.019 g/L of average recommended use concentration.
Ne contient pas plus de 0,3% de phosphore. 0.019 g/L de la concentration moyenne recommandée.

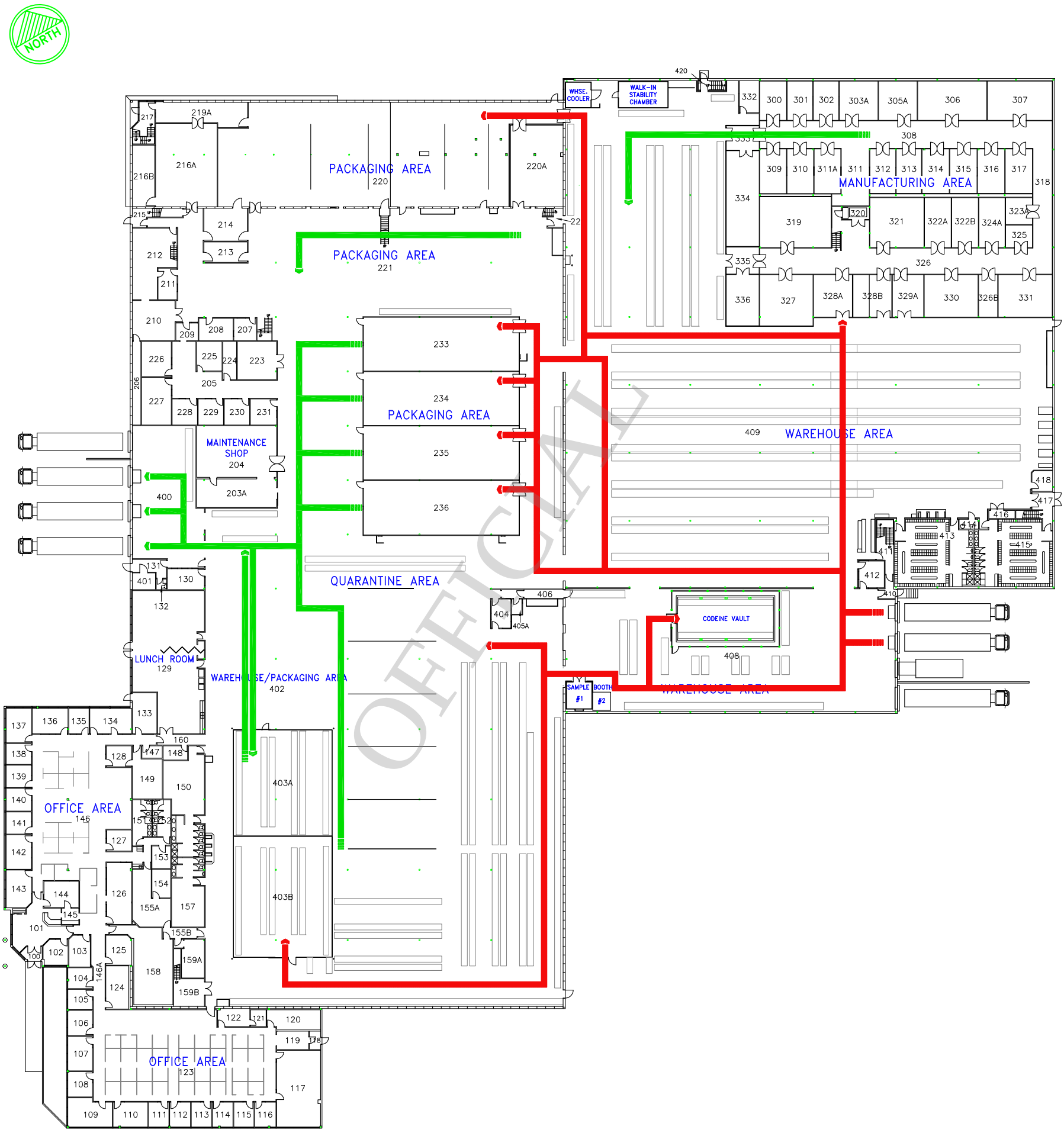
Appendix I RAW MATREIAL FLOW MAP

If printed, this document cannot be used after this date: 2018-11-11

VITA HEALTH PRODUCTS

MATERIAL FLOW MAP

POSTING APPROVAL:	X	ENGINEERING		SECURITY		SAFETY	
SOLABS REVISION NO.: 022		DATE OF LAST CHANGE:		FEBRUARY 25, 2016		QA APPROVAL:	SEE SOLABS
FORM NO.: ANNEX 05		APPROVAL DATE (FROM SOLABS):					



MAIN FLOOR PLAN

LEGEND

RAW MATERIAL FLOW

FINISHED GOODS FLOW

Appendix J CHEMICAL INVENTORY

Liquid chemical inventory as 02/11/19

Chemical Name	Expiry Date	Chem No	Chem ID	Amount Received	Storage
1,4-Dioxane (p-Dioxane)	06/2020	9037	D-4	1*1L	Flammable cabinet
1.0 N Hydrochloric Acid	06/2020	9352	H-13	6*1L	Acid Cabinet
1-BUTANOL	02/2019	9251	B-10	1*1 L	Yellow Cabinet
1-BUTANOL	08/2019	9399	B-10	1*2.5 L	Yellow Cabinet
1-Chlorobutane	06/2019	8998	C-74	2*1L	Flammables Cabinet
1-Chlorobutane - Anhydrous, 99.5%	12/2019	9560	C-128	1*1L	Flammable cabinet
1-Chlorobutane - Anhydrous, 99.5%	12/2019	9559	C-128	1*1 L	Flammable cabinet
1-Propanol	09/2021	9243	P-98	1*2 L	Yellow Cabinet
2,2,4-Trimethylpentane (Isooctane)	01/2021	8553	T-18a	1*4L	Flammable cabinet
2-Butanone (Methyl Ethyl Ketone)	05/2019	9320	M-6	1*1L	Flammable cabinet
2-Methyl -1-Propanol ACS (Isobutyl alcohol)	08/2019	9417	M-31	1*500mL	Flammable cabinet
2-Propanol	08/2022	9162	P-10	4*4L	Yellow Cabinet
2-Propanol	08/2022	9446	P-10	4*4L	Yellow Cabinet
2-Propanol	03/2022	9039	P-10	4*4L	Flammable cabinet
3-Element ICP STD	01/2020	9548	C-10	1*250 mL	RT
3-Element ICP STD	01/2020	9549	C-10	1*250 mL	RT
4-HEPTANONE	02/2019	9222	H-41	1*100 mL	Flammable cabinet
8-Element ICP STD	08/2019	9377	C-9	5*250 mL	RT
8-Element ICP STD	08/2019	9376	C-9	5*250 mL	RT
A. BRASILIENSIS (A. NIGER)	04/2019	9153	AB-1	10 pouch	Fridge
Acetic Acid, Glacial	10/2019	9237	G-1	1*2.5 L	acid cabinet
Acetic Acid, Glacial	07/2020	9498	G-1	6*2.5L	acid cabinet
Acetic Anhydride	10/2019	9497	A-43	1*100 G	Flammable Cabinet
Acetone, for HPLC	02/2019	9234	A-3	2*4L	Yellow Cabinet
Ammonium Hydroxide ACS	05/2020	9416	A-49	2*500mL	Yellow Cabinet
AMMONIUM SULFIDE SOLUTION	05/2019	9319	A-101	1*25 mL	Flammable cabinet
Antimony Standard for ICP-MS	02/2020	9460	A-107 (MD)	1*100 mL	Yellow Cabinet
Aquastar CombiTitrant 5	08/2020	9203	C-61	6*1 L	Titrator cabinet
Aquastar CombiTitrant 5	07/2019	8703	C-61	4*1L	Titrator cabinet
Aquastar CombiTitrant 5	11/2019	9382	C-61	1*2.5 L	Titrator cabinet
Aquastar CombiTitrant 5	11/2019	9207	C-61	1*2.5 L	Titrator cabinet
Arsenic Standard for ICP-MS	02/2020	9465	A-108 (MD)	1*100 mL	Yellow Cabinet
B.subtilis ATCC	09/2019	9330	B-42	10 Pouch	Fridge
Benzene 99%	06/2019	9365	B-12	1*1L	Flammable cabinet
Benzyl Alcohol for headspace gas chromatography	02/2019	9230	B-50	1*2.5 L	Yellow Cabinet
Bis(ethylenediamine)copper(II) hydroxide solution	10/2019	9491	B-32	1*1L	Yellow cabinet
Boron ICP Standard	09/2019	9305	B-34	5 * (2*25 mL)	RT
Boron ICP Standard	09/2019	9306	B-34	1*125 mL	RT
Buffer Solution pH 10.00	05/2019	9507	pH-10	6*500 mL	Fridge/RT
Buffer Solution pH 10.00	02/2019	9123	pH-10	5*500 mL	Fridge/RT
Buffer Solution pH 10.00	02/2019	9329	pH-10	6*500 mL	Fridge/RT
Buffer Solution pH 2.00	10/2020	9536	pH-2	6*500 mL	RT

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Buffer Solution pH 2.00	05/2019	9125	pH-2	6*500 mL	Fridge/RT
Buffer Solution pH 2.00	03/2020	9327	pH-2	6*500 mL	Fridge/RT
Buffer solution pH 4.00	03/2020	9505	pH-4	6*500 mL	RT (Chemical room)
Buffer solution pH 4.00	12/2019	9328	pH-4	6*500 mL	Fridge/RT
Buffer solution pH 4.00	09/2019	9124	pH-4	6*500 mL	Fridge/RT
Buffer solution pH 7	02/2020	9506	pH-7	6*500 mL	RT (Chemical room)
Buffer solution pH 7	08/2019	9331	pH-7	6*500 mL	Fridge/RT
Buffer solution pH 7	09/2019	9121	pH-7	5*500mL	Fridge/RT
Ca Standard for ICP/ICPMS	10/2020	9518	C-127 (MD)	1*125 mL	RT
Cadmium Standard for ICP-MS	12/2019	9466	C-125 (MD)	1*100 mL	Yellow Cabinet
Carbon Disulfide	06/2019	9353	C-35	1*500 mL	Flammable cabinet
Ceric Sulfate 0.1N	06/2019	9346	C-72	1*1L	Yellow Cabinet
Chloroform	11/2019	9511	C-27	1*4L	Yellow Cabinet
Cinnamaldehyde	04/2020	8498	C-113	1*100 G	Flammable cabinet
Citral, 95%	11/2019	9530	C-26	1*100 mL	Flammable cabinet
Citronellal	07/2020	9503	C-29	1*100 mL-F	Flammable Cabinet
Cobaltous Chloride CS	02/2019	9160	C-20	1*120 mL	Yellow cabinet
Conductivity Standard (Traceable)	02/2019	9489	C-17	2*460 mL	Flammable cabinet
Conductivity Standard (Traceable)	08/2019	9574	C-17	1*460 mL	Flammable cabinet
Conductivity Standard (Traceable)	10/2019	9573	C-17	1*460 mL	Flammable cabinet
Copper Sulfate Solution (VS)	07/2019	9083	C-118	2*1L	Yellow Cabinet
Cu Standard for ICP/ICPMS	09/2020	9515	C-126 (MD)	1*125 mL	RT
Cupric Sulfate Pentahydrate	02/2019	9098	C-73	1*500 mL	RT
Diethylamine	03/2020	8880	D-15	2*1L	Flammable cabinet
Diethylenetriamine-Pentaacetic Acid	12/2021	9556	D-52	2*1000 G	RT
Diisopropyl Ether (Isopropyl ether)	01/2020	8781	D-62	1*1L	Yellow cabinet
Dimethyl phthalate	05/2019	9315	D-60	1*1L	yellow cabinet
Dimethyl phthalate	07/2019	9342	D-60	1*1L	yellow cabinet
Dimethyl Sulfoxide (DMSO)	04/2020	9452	D-3	4*2L	Yellow Cabinet
DPD-Chlorine-LR Secondary Standard Kit	09/2020	9474	D-77	1*1Kit	RT
E. coli ATCC	02/2019	9350	E-27	10 pouch	Fridge (Beatrice)
Electrolyte Solution, KCl 3mol/L	02/2022	9397	E-36	1*250 mL	RT (Chemical room)
Electrolyte Teabr 0.4mm	06/2021	8810	E-30	1*250mL	Fridge
Enrichment Pouch with buffered peptone water broth	04/2019	8963	E-28	3 boxes	RT
Eosin Methylene Blue Agar	12/2019	7845	E-5	1*500 grams	RT
Ethanesulfonic acid, 95%	02/2021	8312	E-7	1x25g	Acid Cabinet
Ethanesulfonic acid, 95%	05/2021	9026	E-7	25 g	Acid Cabinet
Ethyl Acetate	11/2022	9235	E-4	4*4L	Flammable cabinet
Ethyl Acetate (USP)	05/2021	8589	(USP) E-20	4*4L	Desiccator
Ethyl Ether Anhydrous	07/2019	9375	E-1	1*4L	Flammables Cabinet
Ethyl Formate, 97%	11/2019	9504	E-9	1*500 mL	Flammable cabinet
Ethylene glycol	07/2019	9371	E-8	1*1L	RT
Fe Standard for ICP/ICPMS	11/2020	9514	F-20 (MD)	1/125 mL	RT
Ferric Chloride CS	02/2019	9097	F-3	1*500mL	Yellow cabinet
Folin & Ciocalteu's Phenol Reagent	08/2019	8624	F-21	1*500 ML	Flammable Cabinet

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Formamide ACS	08/2019	9415	F-22	1*100 mL	Yellow Cabinet
Formic acid	06/2019	9258	F-15	1*500 mL	Flammable cabinet
Formic Acid , ACS reagent, >=98%	03/2020	9502	F-23	1*1L	Flammable cabinet
Formic Acid , ACS reagent, >=98%	09/2019	9455	F-23	2*1L	Acid Cabinet
Formic Acid , ACS reagent, >=98%	01/2020	8795	F-23	2*500mL	Acid Cabinet
Formic Acid , ACS reagent, >=98%	02/2020	8769	F-23	1*500mL	Acid Cabinet
Geobacillus Stearothermophilus	11/2019	9475	G-8	3 boxes	Fridge
Geobacillus Stearothermophilus	06/2019	9166	G-8	3 boxes	Fridge
Geobacillus Stearothermophilus	11/2019	9337	G-8	3 box	Fridge
GlutenTox Pro	10/2020	9564	G-25	3 boxex x 25 test	RT
GlutenTox Pro	06/2019	9154	G-25	2 boxes	RT
GlutenTox Pro	09/2019	9192	G-25	2 boxes	RT
GlutenTox Pro	11/2019	9314	G-25	2 boxes	RT
GlutenTox Pro	04/2020	9383	G-25	3 boxes x 25 test kits	RT
Glycerol	12/2019	9372	G-10	1*1L	Yellow Cabinet
Glycerol	06/2019	9313	G-10	1 bottle	RT
Gram Decolorizer BTL/250 ml	05/2019	9291	G-30	1bottle	RT
Gram Decolorizer BTL/250 ml	08/2019	9292	G-30	1Bottle	RT
Heptafluorobutyric acid 98%	02/2020	8857	H-53	1*100G	Acid Cabinet
Heptane	06/2019	9362	H-11	1*4L	Flammable Cabinet
Hydranal-Methanol dry	01/2021	8876	H-55	1*1L	Flammable cabinet
Hydranal-Methanol dry	12/2020	8802	H-55	6*1L	Flammable cabinet
Hydranal-Methanol dry	06/2022	9367	H-55	6*1L	Flammable cabinet
Hydranal-Methanol dry	07/2022	9172	H-55	6*1L	Flammable cabinet
Hydranal-Water Standard 10.0	02/2021	8877	H-57	2kits*10vials each	Flammable cabinet
Hydrochloric Acid	12/2019	9238	H-12	6*2.5 L	Acid Carbinet
Hydrochloric Acid	04/2019	9023	H-12	3 x2.5L	Acid Carbinet
Hydrochloric Acid	10/2020	9562	H-12	6*2.5 L	Acid Carbinet
Hydrochloric Acid (Trace Metal Grade)	04/2021	9422	H-4	1*500 mL	Acid Cabinet
Hydrochloric Acid (Tracemetal grade)	04/2021	9458	H-4 (MD)	1*500mL	Acid Cabinet
Hydrochloric acid 0.5N	10/2019	9444	H-58	1*1L	Yellow Cabinet
Hydrofluoric Acid, 48 WT %	02/2021	9253	H-18	4*100 mL	Acid Cabinet
Hydrofluoric Acid, 48 WT %	11/2019	8716	H-18	5*100mL	Acid Cabinet
Hydrofluoric Acid, 48 WT %	02/2020	8861	H-18	1*100mL	Acid Cabinet
Hydrofluoric Acid, 48 WT %	02/2020	8845	H-18	4*100ML	Acid Cabinet
Hydrofluoric Acid, 48 WT %	01/2020	8841	H-18	3*100ML	Acid Cabinet
Hydrogen Peroxide	04/2020	9054	H-1	6*500mL	Yellolw Cabinet
Hydrogen Peroxide Solution for ultratrace analysis	07/2021	9473	H-59(MD)	1*250 mL	Fridge
Hydrogen Sulfide Solution	02/2019	9231	H-46	1*25 mL	Fridge
Ibuprofen impurity B (2-4-Butylphenyl propanoic)	07/2019	8592	(EP) I-5	3*1.15 ML	Fridge
ICH/USP Target Element Standard A	07/2019	9402	C-121	1*100 mL	RT
ICH/USP Target Elements Standard A	07/2019	9462	C-121 (MD)	1*100 mL	Yellow Cabinet
ICH/USP Target Elements Standard B	07/2019	9403	C-122	1*100 mL	RT
ICH/USP Target Elements Standard C	07/2019	9404	C-123	1*100 mL	RT
ICH/USP Target Elements Standard D	07/2019	9405	C-124	1*100 mL	RT
Isopropanol	12/2020	9307	I-3	2*18 L	Flammables Cabinet

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Isopropanol	10/2019	9199	I-3	1*18L	Flammables Cabinet
Isopropanol	12/2020	9384	I-3	2*18 L	Flammables Cabinet
Kit Gram Stain Stabilized	07/2019	9390	K-2	1 box (kit)	RT
Lead Standard for ICP-MS	11/2019	9468	L-26 (MD)	1*100 mL	Yellow Cabinet
Liquid Descaler	07/2021	9380	D-76	4*3.78 L (1 Gallon)	RT (Chemical room)
MacConkey Broth	10/2019	9509	M-77	3 boxes x 10 bottles	RT
MacConkey Broth	07/2019	9510	M-77	2 boxes x 10 bottles	Fridge
MacConkey Broth	03/2019	9336	M-77	4 boxes x 10 bottles	Fridge
MacConkey Broth	09/2019	9532	M-77	3 boxes x 10 bottles	Fridge
Mercury Standard for ICP-MS	05/2019	9464	M-91(MD)	1*100 mL	Yellow Cabinet
Meta-Phosphoric acid - ACS Grade	11/2021	9535	P-11	2*500 G	RT
Methyl Benzoate,99%	08/2019	9431	M-41	1*500 G	Yellow Cabinet
Methyl Octanoate	08/2028	9374	M-55	1*25 G	Flammable Cabinet
Methyl Octanoate	09/2027	8531	M-55	1*25G	Flammable Cabinet
Methyl Octanoate	08/2028	9184	M-55	1*25 G	Flammable Cabinet
Mg Standard for ICP/ICPMS	10/2020	9519	M-93 (MD)	1*125 mL	RT
Mineral oil	05/2020	8471	M-9	1*500 ML	Yellow Cabinet
Mn Standard for ICP/ICPMS	07/2020	9517	M-92 (MD)	1*125 mL	RT
Morpholine	01/2020	9554	M-30	1*100 mL	Flammable cabinet
M-Xylene, reagent plus, 99%	10/2019	9496	X-10	1*1L	Flammable cabinet
N,N-Dimethylformamide	02/2019	9239	N-22	1*2 L	Yellow cabinet
N,N-Dimethylformamide	03/2019	9275	N-22	1*2 L	Yellow cabinet
N,N-Dimethylformamide	11/2019	9533	N-22	2*2L	Flammable cabinet
Nitric Acid	05/2022	9077	N-3	4*2.5L	acid cabinet
NITRIC ACID (TRACE METAL GRADE)	04/2020	9427	N-3A	1*500 mL	Acid Cabinet
Nitric Acid, Trace Metal Grade	06/2020	9470	N-3A(MD)	1*500 mL	Acid Cabinet
Nitrobenzene	05/2019	9318	N-7	1*500 mL	Yellow Cabinet
Optima Family Multi-Element Standard	02/2019	9071	O-15	1*500 mL	RT
O-Xylene	10/2019	9490	X-5	1*100 mL	Flammable cabinet
O-Xylene in Methanol	03/2020	9112	X-9	1*1mL	Fridge
Pan Indicator, 0.1 Percent Solution in Ethanol	03/2019	9081	P-31	2*100 mL	RT
p-Anisaldehyde	02/2019	9191	A-41	1 x100g	Flammable cabinet
Pentane	08/2020	8409	P-111	2*2 L	Yellow cabinet
Perchloric Acid	07/2020	9042	P-48	1*100mL	acid cabinet
Perchloric acid standard, 0.1N	05/2019	9078	P-48a	2*500mL	Acid Cabinet
Petroluem Ether	08/2019	9414	P-17	1*500 mL	Flammable cabinet
Pharma Internal Standard 1, in 2%HNO3, tr.HF	07/2019	9401	C-120	1*100 mL	RT
Pharma Internal Standard 1, in 2%HNO3, tr.HF	06/2019	9463	C-120 (MD)	1*100 mL	Yellow Cabinet
Phenyl isothiocyanate	04/2023	9194	P-108	2*100G	Yellow cabinet
Phosphoric Acid (ortho) 85.0% ACS	08/2020	9059	P-82	7*500mL	Acid Cab
Phosphoric Acid (ortho) 85.0% ACS	01/2020	8798	P-82	10*500mL	Acid Cab
Phosphoric Acid (ortho) 85.0% ACS	08/2020	9066	P-82	3*500mL	Acid Cab
Phosphoric Acid HPLC	11/2021	9115	P-127	6*500 mL	Yellow Cabinet
Phosphoric Acid HPLC	04/2020	8770	P-127	6*500 ML	RT
Phosphoric Acid HPLC	12/2022	9381	P-127	6*500 mL	Acid Cabinet

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Picric acid solution	04/2020	8643	P-122	2*1 L	Yellow Cabinet
PlasmaCAL	02/2019	8945	P-125	1*125mL	RT
Polyethylene glycol 400	04/2019	9286	P-40	1*250 G	Flammable cabinet
Potassium Chloride Solution 4M	11/2019	9156	P-4M	5* 500mL	RT
Potassium Chloride Solution 4M	08/2021	8742	P-4M	6*500mL	RT
Potassium Permanganate	02/2020	9569	P-33	2*1 L	RT
PROPIONIC ACID	06/2019	8561	P-119	1*100 ML	Acid Cabinet
Propylene Glycol	05/2019	9316	P-60	1*500 mL	RT (Chemical room)
Pseudomonas Aeruginosa	03/2019	9293	P-121	1pack(10 Pouch)	Fridge
Reagent Alcohol	02/2023	9312	R-99	4*4L	Yellow Cabinet
Reagent Alcohol	10/2021	8739	R-99	8*4L	Yellow Cabinet
Reagent Alcohol	10/2022	9114	R-99	4*4L	Yellow Cabinet
Reagent Alcohol (Ethanol)-For HPLC	10/2021	8808	R-100	4*4L	Flammable cabinet
S. Pyogenes	04/2019	9201	S-109	1 pouch	Fridge
Selenium Standard for ICP-MS	08/2019	9461	S-117 (MD)	1*100 mL	Yellow Cabinet
Silica Gel Desiccant	05/2022	9058	S-59	1*2.5K	RT
Silica Standard Solution 1000 mg/L as SiO2	06/2019	9369	S-112	1*500 mL	RT (Chemical room)
Silicon Standard for ICP	05/2019	9155	S-34	2*100 mL	Yellow cabinet
Sodium hypochlorite solution	06/2019	9492	S-14	2*25 mL	Fridge
Sodium Thiosulfate 1.0 N	08/2019	9364	S-120	6*60 ML	RT
staphaurex plus kt	06/2019	9400	S-106	1 BOX	Fridge
Staphylococcus Aureus ATCC	12/2019	9406	S-101	10 Pouch	Fridge
Staphylococcus Aureus ATCC	08/2019	9294	S-101	1Pack(10pouch)	Fridge
Steril Amp II	08/2019	9322	S-108	1 pouch	FRIDGE
Sulfuric acid	07/2021	9373	S-16	2*2.5 L	Acid Cabinet
Sulfuric acid	05/2020	8951	S-16	1*2.5L	Acid Cabinet
Sulfuric acid	05/2021	9321	S-16	2*5 L	Acid Cabinet
Sulfuric acid	11/2021	9487	S-16	2*2.5 L	Acid Cabinet
Sulfuric acid	05/2020	8956	S-16	4*2.5L	Acid Cabinet
tert-buty methyl ether (Methyl t-Butyl Ether)	04/2019	8476	T-35		Flammable cabinet
Tetrabutylammonium Hydroxide, 1.0M in methanol	04/2021	8318	T-9	1*800mL	RT
Tetrabutylammonium Hydroxide, 1.0M in methanol	05/2019	9317	T-9	1*800 mL	Flammable cabinet
Tetrabutylammonium Hydroxide, 40% in Water	06/2020	9135	T-51	2*100mL	RT (Chemical room)
Tetrahydrofuran	04/2019	9338	T-7	2*1L	Flammables Cabinet
Thioglycolic acid	01/2020	9542	T-8	1*100 mL	Freezer
Thujone Standard Mixture	12/2019	8872	T-28	5*1ML	Fridge
Thymidine 5'-monophosphate disodium salt hydrate	10/2021	9457	T-68	1*100MG	Freezer
Titanium (III) Chloride Solution	07/2019	8995	T-25a	1*100mL	Yellow Cabinet
Titrant Solution Hardness 3	01/2023	9247	T-82	5*100 mL	RT
Titrant Solution Hardness 3	10/2022	9122	T-82	2*100 mL	RT
Titrant Solution Hardness 3	01/2023	9220	T-82	5*100 mL	RT
Toluene	07/2022	9161	T-10	2*1L	Flammables Cabinet
Toluene	04/2021	8503	T-10	4*1L	Flammables Cabinet
Triethylamine	02/2019	8685	T-6	4*500mL	Flammables Cabinet

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Trifluoroacetic acid	05/2019	8472	T-23	2*100 G	Acid Cabinet
Trifluoroacetic acid	04/2019	8434	T-23	2*100G	Acid Cabinet
Trifluoroacetic acid - for HPLC, >= 99.0%	01/2020	9561	T-71	1*100 mL	Yellow Cabinet
Triton X-100 Surfactant (Octoxynol)	03/2020	9370	T-31	1*100ML	Yellow cabinet
Tryptic Soy broth (Premade)	12/2019	9591	T-55	8 bottles x 1L	Fridge/ RT
Tuning Solution for ICP-MS	04/2019	9459	T-54 (MD)	2*500 mL	Yellow Cabinet
Tween 80 (Polysorbate 80)	11/2019	7948	T-9a	1*25 ml	Yellow cabinet
Valerophenone, 99%	12/2019	9557	V-4	1*25 G	Yellow Cabinet
Vanadiium Standard for ICP-MS	07/2019	9467	V-17 (MD)	1*100 mL	Yellow Cabinet
Vis Wavecal Solution	02/2019	9073	V-16	1*250 mL	RT
Water Blank, 18 Megohm, ASTM Type	09/2019	9433	W-10	1*4L	RT
Water for headspace gas chromatography	04/2019	9303	N-22	1*2L	Yellow cabinet
Water for headspace gas chromatography	09/2021	9232	W-8	1*2.5 L	Yellow Cabinet
Water OmniTrace Ultra	08/2019	9428	w-9	2*2L	RT
Water OmniTrace Ultra	10/2019	9471	W-9(MD)	8*1L	RT
Water Standard 1%	02/2023	9434	A-71	10*8mL	RT
Water Standard 1%	02/2023	9547	A-71	2 Boxes - 10*8 mL	RT
Water Standard 1%	02/2022	8958	A-71	2boxes*(10*8mL each)	RT
Water Standard 1%	04/2023	9565	A-71	5 boxes (10*8 mL each)	Flammable cabinet
Waters ACQUITY UPLC ELSD Test Solution	11/2019	9304	W-3	2 Kits* 1 VIAL each	Yellow Cabinet
Waters HPLC System UV Test Solutions	09/2019	8848	w-6	1Kit*10vials	RT (Chemical room)
Waters HPLC System UV Test Solutions	07/2019	8843	w-6	1Kit*10 vials	RT (Chemical room)
Xylenes Reagent	11/2019	9520	X-4	1*1L	Yellow Cabinet
Zn Standard for ICP/ICPMS	09/2020	9513	Z-9 (MD)	1*125 mL	RT

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Solid inventory list as of 02/11/19

Chemical Name	Expiry Date	Chem No	Chem ID	Amount Received	Storage
(+)-Sodium L-Ascorbate	04/2019	7860	S-86	1*100 g	RT
1,10-Phenanthroline monohydrate	06/2020	8991	P-53	1*25G	Desiccator
1,10-Phenanthroline monohydrate	08/2019	9419	P-53	1*25 G	Desiccator
1,3-Dihyroxynaphthalene 98%	02/2020	8712	D-16	1*5G	RT
1-Chloro-4-nitrobenzene	01/2021	9210	C-88	1*100 G	RT (Chemical room)
1-Descarbamoyl-2-carbamoyl Methocarbamol	02/2019	9175	D-74	1*100 MG	Fridge
1-Hexanesulfonic Acid Sodium salt	04/2021	8729	H-21	1*500g	RT
1-Hexanesulfonic Acid Sodium salt	04/2021	9550	H-21	1* 500 G	RT
1-Naphthol,99.5%	05/2020	9082	N-4	1*10G	RT
1-Octanesulfonic Acid Sodium Salt	03/2019	8865	O-3	1*100G	RT
1-Octanesulfonic Acid Sodium Salt	11/2020	9385	O-3	1*100 G	RT
2,6-Dichloroindophenol Sodium Salt Hydrate	02/2022	9302	S-60	1*25 G	Desiccator
2',7'-Dichlorofluorescein	10/2021	9494	D-21	1*1G	RT
2,7-Dihydroxynaphthalene	03/2021	9264	D-51	1*5 G	RT
2-Aminoethyl Diphenylborinate	01/2020	9223	A-58	1*25 G	RT (Chemical room)
2-Aminoethyl Diphenylborinate	01/2021	9544	A-58	1*25 G	Freezer
2-Hydroxybenzyl alcohol, 99%	07/2020	9029	H-20	1*100G	RT (Chemical room)
2-Nitrophenol	12/2019	8727	N-17	1*25G	Desiccator
2-Nitrophenyl ß-D-Galactopyranoside	10/2022	9543	N-20	2*5 G	Freezer (-20C)
4-(Methylamino)phenol hemisulfate salt	10/2019	8690	M-58	1*100g	RT
4-Amino-3-hydroxy-1-naphthalenesulfonic acid	01/2020	8816	A-46	1*25G	RT (Chemical room)
4-Aminobenzoic acid	04/2021	9481	A100	1*25 G	Fridge
4-Bromoacetanilide, 98%	06/2020	9001	B-47	1*25G	RT (Chemical room)
4-Bromoacetanilide, 98%	01/2021	9558	B-47	1*25 G	RT (Chemical room)
4'-Chloroacetanilide	12/2020	8438	C-62	2*1 G	RT
4-hydroxybenzoic acid, 99%	07/2020	9035	H-22	1*250G	RT (Chemical room)
4-hydroxybenzoic acid, 99%	08/2019	8642	H-22	1*250 G	RT
4-METHOXYBENZOIC ACID	08/2020	9027	M-75	5g	RT (Chemical room)
4-Nitrobenzenediazonium tetrafluoroborate, 97%	07/2019	8601	N-24	1*25 G	Fridge
4-Nitrophenol	12/2020	8448	N-26	2*1 G	RT
4-Nitrophenol	01/2020	8776	N-26	1*50 G	RT
5a-CHOLESTANE	04/2021	8863	C-104	1*5G	RT
5-Methyl-5-phenylhydantoin	01/2020	8838	M-83	1*100mg	Fridge
8-Hydroxyquinoline	03/2022	9495	H-42	1*50G	RT (Chemical room)
Acenaphthene	01/2020	8811	A-61	1*5G	RT (Chemical room)
Acetylsalicylsalicylic Acid	03/2020	9150	A-80	1*250 MG	Fridge
Adenine	07/2021	9453	A-90	1*1G	RT (Chemical room)
Alginic acid from brown algae	03/2019	8410	A-70	1*100 G	RT
Aluminium-nickel,Raney-type alloy	02/2019	8375	A-63	1*100G	RT
Aluminum chloride,anhydrous	11/2019	8721	A-66	1*250G	RT (Chemical room)
Aluminum chloride,anhydrous	02/2021	9256	A-66	1*250 G	Desiccator
Aluminum Metal	05/2020	8967	A-54	1*7G	RT (Chemical room)
Amaranth	08/2023	9104	A-60	1*50G	RT
Ammonium Acetate ACS	06/2022	9208	A-13	2*500 G	RT
Ammonium Bicarbonate	07/2020	9021	A-8	1*500 grams	RT
Ammonium Carbonate	01/2021	9216	A-14	1*500 G	RT
Ammonium Dihydrogen Phosphate, 98%	03/2023	9534	A-39	1*500	RT
Ammonium formate	10/2021	9418	A-22	1*25G-F	RT (Chemical room)
Ammonium Iron (III) Sulfate Dodecahydrate	03/2021	9262	F-1	1*25 G	Fridge
Ammonium Molybdate Tetrahydrate	08/2020	9265	A-19	1*100 G	RT
Ammonium Oxalate monohydrate	04/2023	9392	A-21	1*100 G	RT
Ammonium Oxalate monohydrate	08/2020	9200	A-21	1*250 G	RT
Ammonium Persulfate	01/2020	9582	A-74	1*100G	RT
Ammonium phosphate monobasic	07/2020	8990	A-7	1*500G	RT (Chemical room)
Ammonium Pyrrolidinedithiocarbamate	10/2021	9447	A-11	2*100G	Fridge
ammonium sodium dibasic tetrahydrate	07/2019	8660	A-99	1*100g	RT
Ammonium sulfate	07/2019	8593	A-25	1*500G	RT
Ammonium Thiocyanate	08/2019	8632	A-26	1*100 G	RT
ANAEROBIC INDICATOR	05/2020	9442	A-15	1 box	Fridge
Andrographolide - 98%	03/2021	9266	A-106	1*100 MG	RT (Chemical room)
Antimony Trichloride	10/2020	9120	A-17	1*100G	Desiccator
Aquastar II CL-Free DPD No. 1	10/2021	6466	AQ-1	100 TABS	RT
Arsenic Trioxide, Primary Std.	02/2021	9255	A-30	1*125 G	RT
Ascorbic Acid	12/2020	9068	A-50 (STD)	1*2G	Fridge

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Ascorbic Acid	12/2020	9030	A-50 (STD)	1*2G	Fridge
Ascorbic Acid	12/2020	8905	A-50 (STD)	2*2GR	Fridge
Azure B	07/2020	9041	A-103	1*5G	RT (Chemical room)
Barium Chloride Dihydrate	01/2021	9537	B-14	1*100G	RT
Barium hydroxide	07/2019	8656	B-3a	1* 250g	RT
Barium hydroxide	12/2020	9178	B-3a	1*250 G	RT
Benzanilide, 98%	12/2021	9555	B-46	1*100 G	RT (Chemical room)
Benzanilide, 98%	06/2020	9000	B-46	1*5G	RT (Chemical room)
Benzethonium chloride	01/2021	9217	B-48	1*100 G	RT (Chemical room)
Benzoic acid	05/2020	8964	B-4	1*25G	RT (Chemical room)
Benzoic acid	09/2021	8974	B-4	1*60G	RT (Chemical room)
Benzophenone 99%	04/2020	8916	B-20	1*10G	RT (Chemical room)
Benzophenone 99%	12/2020	8439	B-20	2*1 G	RT
Benzyldimethylstearylammonium Chloride Hydrate	08/2021	9394	B-11	1*100 G	Desiccator
Biphenyl	12/2021	9581	B-38	1*25 G	RT
Boric Acid	06/2019	7589	B-7	5x500g	RT
Bromelain, from Pineapple stem	10/2019	9541	B-35	2*10 G	Freezer
Bromine	03/2021	9259	B-6	1*100G	Fridge
Bromocresol Green	10/2020	9095	B-19	1*25G	RT
Bromophenol Blue	01/2020	9280	B-16	1*5G	RT
Bromothymol Blue	03/2021	9261	B-9	1*5 G	RT
BUFFERED PEPTONE WATER	10/2019	7837	B-2	1*500 grams	RT
Butyl 4-hydroxybenzoate	03/2021	9260	B-28	1*50 G-F	RT
Butylated Hydroxy Toluene	02/2019	9311	B-25	1*500 G	RT
Calcium acetate hydrate	10/2020	9209	C-32a	1*100 G	RT
Calcium Carbonate Chelometric Standard	10/2019	8673	C-100	1*100g	RT
Calcium Chloride	01/2021	9412	C-1	1*25 G	RT (Chemical room)
Calcium Hydroxide	02/2019	8366	C-3	1*250 G	RT
Calcium Hydroxide	07/2021	9386	C-3	1*100 G	RT
Calcium Phosphate Dibasic	05/2020	8954	C-86	1*500G	RT (Chemical room)
Calcium-D-Pantothenate (CRS)	12/2021	9031	C-116	2*500MG	Fridge
Calcium-D-Pantothenate (CRS)	12/2021	9060	C-116	2*500MG	Fridge
Calcium-D-Pantothenate (CRS)	12/2021	8969	C-116	2*500MG	Fridge
Campesterol	07/2019	8607	C-115	2*5 mg	Freezer
Candida Albicans	08/2019	9282	C-81	1 Pack X 10 pouch	RT
Carbazole	10/2020	9105	C-111	1*100G	RT (Chemical room)
Ceric Ammonium Nitrate	01/2022	8849	C-12	1*500G	RT
Cerium (IV) Sulfate-4-Hydrate	02/2020	9420	C-57	1*25 G	RT
Cetylpyridinium Chloride	05/2023	9524	C-71	1*100 G	RT (Chemical room)
Chloramine T trihydrate	11/2021	9485	C-101	1*100G	RT (Chemical room)
CHLORAMPHENICOL SUPPLEMENT	09/2020	9568	C-85	2 boxes x 10 bottles	Fridge
CHLORAMPHENICOL SUPPLEMENT	05/2019	9015	C-85	2 boxes	Fridge
Chloroacetic Acid 99%	04/2021	9297	C-59		RT
Chloroplatinic Acid, Hexahydrate	10/2020	9091	C-49	1*1G	RT (Chemical room)
Cholestryl Benzoate	08/2019	8636	C-25	1*25 G	RT
Citric acid	10/2020	9086	C-51	1*500 G	RT
Citric Acid, Monohydrate	06/2021	9344	C-18	1*2K	RT
Cobalt (II) nitrate hexahydrate, 98+%	06/2019	8530	C-28	1*100 G	RT
Cobalt (II) sulfate heptahydrate	02/2022	9571	C-54	1*100 g	RT (Chemical room)
Cobalt Chloride Hexahydrate	11/2021	9484	C-20a	1*100 G	RT
Coliform (Petrifilm) Plates	04/2020	9508	C-102	2 boxes	Fridge
COLUMBIA BLOOD AGARW/5% SHEEP BLOOD	02/2019	9551	C-112	3 packs x 10 plates	RT
CONTACT STERILE SAB DEX AGAR PLATES	03/2019	9482	T-05	4 boxes x 20 plates	Fridge
CONTACT STERILE TSA	08/2019	9577	T-80	box (20 packs x 10 plate	RT
CONTACT STERILE TSA	03/2019	9472	T-80	1 box (20 x 10 plates)	Fridge
CONTACT STERILE TSA	02/2019	9552	T-80	6 packs x 10 plates	Fridge
Copper (II) Sulfate Hydrate	04/2020	8913	C-22	1*25 G	RT
copper(ii) sulfate pentahydrate	03/2020	8900	C-53	1*100G	RT (Chemical room)
Crystal Violet	03/2021	9267	C-24	1*50 G	RT
Curcumin	01/2021	9539	C-50	2*5 G	Freezer
Cyanocobalmin	12/2021	8862	V-15	1*1G	Fridge
Cyanocobalmin	12/2021	8984	V-15	2*1G	Fridge
Cyanocobalmin	12/2021	8930	V-15	1*1G	Fridge
Cytosine	03/2019	8411	C-69	1*5 G	Fridge
D-(+)-Glucose monohydrate	06/2019	9137	G-5	1*250 G	RT
D-Glucuronic Acid	02/2020	9389	G-28	1*10 G	RT (Chemical room)

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Diatomaceous earth, Si02	05/2021	9421	D-31	1*500 G	RT
Diethylenetriamine-Pentaacetic Acid	10/2021	9476	D-52	1*1000 G	RT
Dimethyl sulfone	12/2021	9579	D-72	1*5 G	RT
Diphenylamine, 99%	03/2021	9268	D-19	1*100 G	RT
Diphenylmethanol	08/2021	9411	D-71	1*100G	RT (Chemical room)
Diphenylmethanol	04/2019	8446	D-71	2*5 G	RT (Chemical room)
DL-Methionine 99%	04/2020	9426	M-85	1EA	RT (Chemical room)
DL-Methionine 99%	05/2022	8914	M-85	1*100G	RT (Chemical room)
Docusate Sodium Salt	01/2020	8842	D-50	1*100G	RT (Chemical room)
Docusate Sodium Salt	02/2020	8855	D-50	1*100G	RT (Chemical room)
Docusate Sodium Salt	06/2020	8985	D-50	1*100G	RT
Dodecyl Sulfate Sodium Salt (Sodium dodecyl sul)	12/2021	9580	D-61	1*25 G	RT
DPD Total Chlorine Reagent	06/2022	9283	D-75	2 Pk * 100	RT
Dupont fiber ID stain# 4	01/2020	8787	D-8	50 grams	RT (Chemical room)
E.Coli/Coliform Count Plates	05/2019	9170	C-107	2 packs	Fridge
EE BROTH, MOSSEL	01/2020	8231	E-26	3 bottles * 500g	RT
Eosin Y	06/2020	8904	E-2	1*25G	RT (Chemical room)
Eriochrome Black T	06/2019	8528	E-3	1*100 G	RT
Ethylenediaminetetraacetic Acid Disodium Dihydrate	11/2021	9276	D-12	2*500 G	RT
Fast Blue B Salt	12/2020	9179	F-16	1*10 G	Fridge
Ferrous (II) Ammonium Sulfate	01/2022	9590	F-6	1* 100 G	RT
Ferrous Sulfate Heptahydrate	01/2021	8695	F-7	1*250g	RT
Ferrous Sulfide	04/2020	8881	F-13	1*500G	RT
Fluorescein sodium salt	04/2020	8915	F-28	1*100G	RT (Chemical room)
Gallic Acid	03/2021	9269	G-22	1*100 G	RT
Geobacillus Stearothermophilus	07/2019	9252	G-8	3 boxes	Fridge
Gluten from Wheat	12/2021	9176	G-23	1*500 G	RT
Glycolic acid	11/2019	8723	G-15	1*25G	RT
Glycyrrhizic Acid Ammonium Salt	06/2019	8522	G-4a	2*25 G	Fridge
Guaiacol Glyceryl Ether	02/2020	8856	G-9	5*25G	RT (Chemical room)
Guaiacol Glyceryl Ether	03/2020	8901	G-9	4*25G	RT (Chemical room)
Guaiacol glyceryl ether carbamate	06/2019	8550	G-9a	6*5G	RT
Hexamethylenetetramine (Methenamine)	11/2019	8708	H-28	1*250G	RT
Hexamethylenetetramine (Methenamine)	03/2021	9270	H-28	1/250 G	RT
HYCHECK FOR YEAST AND MOLDS	05/2019	9563	H10	10 boxes x 10 hychecks	Fridge
Hydrazine Sulfate	06/2020	8989	H-19	1*100G	RT (Chemical room)
Hydroquinone	03/2019	8412	H-3	1*100 G	RT
Hydroxylamine hydrochloride, 98%	10/2020	9523	H-5	1*100 G	RT (Chemical room)
Hydroxynaphthol Blue Indicator	05/2020	8980	H-29	1*100G	RT (Chemical room)
Indigo Carmine	01/2022	9589	I-25	1* 25 G	RT
Iodine	04/2019	8457	I-1	2*25 G	RT
Iron (III) chloride hexahydrate	03/2019	8908	F-3a	1*100G	RT (Chemical room)
Iron(III) Sulfate Hydrate	08/2021	9410	I-28	1*100G	RT (Chemical room)
Iron-wire, diam 1.0 mm	05/2020	8950	I-30	1*1M	RT (Chemical room)
Isoquercitroside	10/2021	9224	I-12	1*25 MG	Freezer
Lanthanum Oxide	05/2020	8936	L-21	1*50G	Desiccator
Lanthanum(III) chloride heptahydrate	03/2019	8413	L-7	1*100 G	RT
Lanthanum(III) nitrate hydrate, 99%	12/2021	9575	L-23	1*100 G	RT
L-Ascorbic Acid	04/2019	8465	A-50	1*100 G	RT
Lead (II) Perchlorate trihydrate	08/2019	8639	L-14	1*100 G	RT
Lead Acetate, Trihydrate	06/2020	9366	L-4	2*250 G	RT
Lead Nitrate ACS	04/2021	9301	L-5	1*100 G	RT
Lecithin, refined	12/2021	9572	L-17	1*250 G	RT
L-Phenylalanine	10/2019	8671	P-116	1*25g	RT (Chemical room)
L-Tyrosine	12/2022	7331	T-46	1x50g	RT
MacConkey Agar Plates	03/2020	8253	M-49	5*500G bottles	RT
Magnesium Chloride	03/2020	9479	M-92	1*100G	Desiccator
Maleic Acid,99%	09/2021	7759	M-43	1*100 G	RT
MALEIC ANHYDRIDE - BRIQUETES	03/2019	8417	M-76	1*25 G	RT
MALEIC ANHYDRIDE - BRIQUETES	03/2021	9272	M-76	1*25 G-A	RT
Mannitol Salt Agar Plates	03/2020	8229	M-50	3 bottles * 500g	RT (Beatrice)
Mannitol Salt Agar Plates	05/2022	9448	M-50	5 BOTTLES X 500G	RT (Beatrice)
Mannitol Salt Agar Plates	12/2021	8892	M-50	5 bottles x 500g	RT
Mannitol Salt Agar Plates	12/2020	8890	M-50	1 bottle x 500g	RT
m-cresol purple indicator	05/2020	8948	M-46	1*5G	RT
Medroxyprogesterone Acetate (CRM)	12/2019	8786	M-57a	2*500MG	RT (Chemical room)

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Mercuric Iodide Red	09/2021	9090	M-16	1*10G	RT
Mercuric Iodide Red	10/2022	9180	M-16	1*10 G	RT
Mercury (II) oxide yellow	08/2021	9408	M-17	2*100 G	RT (Chemical room)
Mercury(II) chloride	08/2021	9409	M-15	1*100 G	RT
Methyl 4-hydroxybenzoate Indicator	03/2023	9332	M-47	1*100 G	RT
Methyl Orange, ACS	03/2019	8414	M-19	1*25 G	RT
Methyl Red	02/2020	8854	M-20	1*100G	RT
Methylene Blue	12/2020	9181	P-50	1*100 G	Yellow Cabinet
Methylene Blue	08/2021	9407	M-21	1*25 G	RT (Chemical room)
Molybdic Acid	04/2019	9425	M-2	1*100G	RT
Myricetin	06/2020	8970	M-90	1*25MG	RT (Chemical room)
N,N-DIPHENYLBENZIDINE	02/2021	9241	N-8	1*10 G	RT
Naphthalene	10/2020	9093	N-9	1*25G	RT (Chemical room)
n-Hexadecyl palmitate, 98%	07/2022	9454	H-37	1*25G	RT
Ninhydrin	07/2019	8875	N-10	1*100G	RT
O-Acetylsalicylic Anhydride	08/2020	9151	A-73	1*250 MG	Freezer
o-Tolidine	09/2021	9445	T-11	1*25 G	RT (Chemical room)
Oxalic Acid	08/2019	8634	O-2	1*50 G	RT
P-AMINOHIPPURIC ACID	08/2021	9424	A-67	1*10G	RT (Chemical room)
p-Aminophenol	12/2019	8440	A-33	2*1 G	rt
Pancreatin from porcine pancreas	04/2021	9300	P-3	1*100 G	Freezer
Pancreatin from porcine pancreas	01/2020	9540	P-3	2*100 G	Freezer
p-Anisidine	09/2020	9177	A-28	1*5G	RT
Papain	09/2020	9096	P-4	1*50 GR	Fridge
Pararosaniline hydrochloride	08/2020	9050	P-112	1*25G	Desiccator
p-Dimethylaminobenzaldehyde	07/2019	9116	D-26	1*100G	RT
Petrifilm Aerobic Count Plates	05/2019	9168	P-131	1 pack	Fridge
Petrifilm Staph Express Count Plates	07/2019	9308	P-43	1 box x 2 pouch	Fridge
Petrifilm Staph Express Disks	08/2019	9309	P-45	1 pouch x 20 disk	Fridge
Petrifilm Yeast & Mold Count Plates	05/2019	9169	P-132	1 pack	Fridge
Phenol	07/2019	9326	P-15	1*25 G	RT (Chemical room)
Phenol Red ACS	09/2021	9441	P-7	1*25 Gyes	RT
Phenolphthalein	05/2021	9325	P-6	1*100 G	RT
Phenylhydrazine Hydrochloride	08/2020	8497	P-9	1*25 G	RT (Chemical room)
Phlorizin Hydrate	06/2020	8983	P-142	1*100MG	RT (Chemical room)
Phloroglucinol	01/2020	8815	P-61	1*25G	RT
Phosphomolybdic acid hydrate, ACS reagent	11/2019	8706	P-64	1*100G	RT
Phosphorus Pentoxide	01/2020	8826	P-13	1*500G	RT
Phthalic Acid	01/2022	9588	P-14	1* 25 G	RT
Poly(vinyl alcohol)	05/2022	9435	P-93	1*250 G	RT
Polyethylene Glycol 4,000	01/2023	9094	P-59	1*100G	RT
Polyethylene Glycol 4,000	01/2023	8885	P-59	1*100G	RT
Potassium Acetate	12/2019	9486	P-151	1*100G	Desiccator
Potassium antimony(III) tartrate hydrate	01/2021	9215	P-49	1*10 G	RT
Potassium Bromide	12/2019	8745	P-18	1*100G	RT (Chemical room)
Potassium Carbonate, Anhydrous	09/2023	9277	P-19	1*250G-F	RT
Potassium Chlorate	10/2019	9436	P-20	1*100G	RT
Potassium Chloride	02/2019	8360	P-21	1*250 G	RT
Potassium Chloride	05/2021	7622	P-21	1x250g	RT
Potassium chromate	01/2021	9211	P-22	1*100 G	RT
Potassium Cyanide	07/2020	9012	P-24	4*25G	RT (Chemical room)
Potassium Dichromate	06/2020	8988	P-25	1*100G	RT (Chemical room)
Potassium Dichromate, STD	01/2023	9341	P-25 (STD)	1*50 G-F	RT (Chemical room)
Potassium Ferricyanide	12/2019	8748	P-26	1*100G	RT
Potassium Ferrocyanide	02/2020	9204	P-27	1*100 G	RT
Potassium hexahydroxoantimonate (v)	03/2021	9263	P-62	1*5 G	RT
Potassium Hydrogen Phthalate	03/2021	9391	P-41	2*80 G	RT
Potassium hydroxide	10/2020	9538	P-29	2*500G	RT
Potassium hydroxide	01/2020	9388	P-29	1*500 G	RT
Potassium iodate	05/2021	8450	P-85	1*100 G	RT (weighing room)
Potassium Iodide	02/2020	9119	P-30	1*500G	RT (Chemical room)
Potassium Nitrate	08/2021	9413	P-32	1*10 G	RT (Chemical room)
Potassium Nitrate	06/2020	8981	P-32	1*10G	RT (Chemical room)
Potassium Nitrate	12/2020	9158	P-32	1*10 G	RT
Potassium Permanganate	09/2021	9432	P-33	1*500G	RT (Chemical room)
Potassium Phosphate Dibasic	08/2021	9423	P-34	2*1K	RT

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Potassium Phosphate Monobasic	06/2021	9274	P-35	1*2.5 K	RT
Potassium Sodium Tartrate Tetrahydrate	03/2019	8427	P-2	1*100 G	RT
Potassium Sodium Tartrate Tetrahydrate	12/2022	9512	P-2	1*500G	RT
Potassium Sodium Tartrate Tetrahydrate	12/2022	9526	P-2	1*500 G	RT
Potassium sulfate	01/2022	9586	P-38	1*500 G	RT
Potassium Thiocyanate	04/2019	8940	P-39	1*100G	RT (Chemical room)
povidone k 30	06/2019	8533	P-152	1*100 G	RT (Chemical room)
povidone K 90	10/2019	9273	p-129	1* 250G	RT
Premade Mannitol Salt Agar	02/2019	9527	M-86	4 packs x 10 plates	Fridge
Premade Pseudomonas Cetrimide Agar	02/2019	9528	P-156	2 packs x 10 plates	Fridge
Pseudomonas Cetrimide Agar Plates	10/2020	9130	P-101	2 BOTTLES X 500G	RT
p-Toluidine	02/2021	9242	T-49	1*250 G	RT
Pyrocatechol (1,2-Dihydroxybenzene)	01/2022	9587	P-95	1* 5 G	RT
Pyrogallol,98+%	04/2020	8926	P-46	1*250G	RT
Quercetin	05/2020	8966	Q-1	1*10G	RT (Chemical room)
Quinidine Sulfate dihydrate	05/2022	9583	Q-2	1*25 G	RT
R2A Agar	02/2019	7879	R-24	2*500 grams	RT
rac Guaifenesin Cyclic Carbonate	12/2020	9157	R-28	1*250MG	Fridge
Reagent Set, Silica High Range 10 mL	05/2022	8993	S-113	1 Set	RT (Chemical room)
REINFORCED CLOSTRIDIAL AGAR	11/2019	7839	R-12	1*500 g	RT
Rhodamine B	05/2020	8939	R-15	1*25G	RT (Chemical room)
RVS ENRICHMENT MEDIUM MLT	07/2020	8510	R-25	5 bottles	RT
RVS ENRICHMENT MEDIUM MLT	11/2021	9395	R-25	5 bottles x500g	RT
S. ENTERICA SV TYPHI 14028	02/2020	9553	S-103	1 pack x 10 pouch	Fridge
Sab Dex Agar pH 5.6 premade	10/2019	9566	S-114	2 pack x 10 bottles	RT
Sabouraud Dextrose Agar	03/2021	8972	S-91	10 bottles	RT
Sabouraud Dextrose Agar	09/2020	8764	S-91	10 x 500g	RT
Sabouraud Dextrose Agar	01/2022	9226	S-91	5 x 500 g	RT
Sabouraud Dextrose Agar	01/2022	9206	S-91	5 x 500g	RT
Sabouraud Dextrose Agar	08/2022	9531	S-91	3 bottles x 500g	fridge
Sabouraud Dextrose Agar	01/2022	9349	S-91	5 bottles x 500g	fridge
Sabouraud Dextrose Agar	07/2022	9525	S-91	2 bottles x 500g	fridge
Sabouraud Dextrose Broth	11/2020	8331	S-93	2 bottles	RT
Salicylaldehyde azine	07/2020	6118	S-56	1x10g	RT
SAND	04/2019	8468	S-107	1*500 G	RT
Silica, fumed-powder	08/2021	9398	S-116	1*100 G	RT (Chemical room)
Silver Diethyldithiocarbamate	09/2019	8669	S-3	1*25G	Fridge
Silver Nitrate 99%, ACS Reagent	05/2020	9361	S-6	1*100 G	RT
Sodium 1-heptanesulfonate	03/2019	8415	H-14	1*100 G	RT
Sodium Acetate Anhydrous	12/2022	9333	S-7	1* 500 G	RT
Sodium Acetate Anhydrous	12/2022	9450	S-7	1*500G	RT
Sodium Acetate Trihydrate	11/2019	9340	S-5	2*500 G	RT
Sodium Acetate Trihydrate	11/2019	9198	S-5	1*500G	RT
Sodium benzoate	11/2019	8483	S-80	1*250 G	RT
Sodium Bicarbonate	08/2021	9245	S-10	2*5 K	RT
Sodium Bisulfite, ACS	01/2022	9585	S-90	1*100 G	RT
Sodium Bromide	07/2019	8657	S-37	1*100g	RT
Sodium Carbonate anhydrous	05/2019	9014	S-12	1*500G	RT (Chemical room)
Sodium Carbonate anhydrous	01/2020	8777	S-12	1*500G	RT
Sodium Carbonate anhydrous	05/2021	9324	S-12	1*500 G	RT
Sodium Carbonate Decahydrate 99+%	02/2019	8365	S-78	1*1 Kg	RT
Sodium Chloride	10/2020	7925	S-20	2*2.5 kg	RT (Chemical room)
Sodium Chloride	05/2020	7926	S-20	2*2.5 kg	RT (Chemical room)
Sodium chloride peptone broth	03/2019	7551	S-100	1x500g	RT
Sodium Chloride, certified standard	01/2021	8918	S-111	1*25G	RT (Chemical room)
Sodium Chloride, certified standard	12/2020	9499	S-111	1*25 G	RT (Chemical room)
Sodium Diethyldithiocarbamate Trihydrate	03/2020	8898	S-19	1*100G	RT
Sodium Fluoride	11/2020	9516	S-15	1*100 G	Desiccator
Sodium Hexametaphosphate - crystalline	12/2021	9570	S-27	1*1 kg	RT (Chemical room)
SODIUM HYALURONATE BRP	06/2019	8568	S-110	1*300 MG	Fridge
Sodium hydrogen selenite	07/2020	9043	S-114	1*25G	RT (Chemical room)
Sodium hydrogen tartrate monohydrate	10/2021	8866	S-77	1*250G	RT
Sodium hydrogen tartrate monohydrate	09/2019	7583	S-77	1x250g	RT
Sodium Hydrosulfite	02/2020	9488	S-22	1*100G	RT (Chemical room)
Sodium Hydroxide, ACS	04/2020	9480	S-26	1*500G	RT
Sodium Hydroxide, ACS	09/2020	9578	S-26	2*500 G	RT

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SODIUM L-TARTRATE DIBASIC DIHYDRATE ACS 99%	05/2019	8867	S-105	1*100G	RT (Chemical room)
Sodium Metabisulfite	02/2019	8370	S-58	5*500 G	RT
Sodium molybdate, 98%	02/2019	8362	S-82a	1*100 G	RT
Sodium Nitrate ACS	09/2021	9437	S-49	1*500G	RT (Chemical room)
Sodium Nitrate ACS	01/2022	9584	S-49	1*500 G	RT
Sodium nitrite, 97%	10/2019	8864	S-23	1*100G	RT
Sodium nitrite, 97%	09/2019	9132	S-23	1*100G	Desiccator
Sodium Nitroferricyanide (III) dihydrate	11/2020	9438	S-79	1*100 G	RT (Chemical room)
Sodium Oxalate, 99.5+%	05/2021	9451	S-61	1*125G	RT
SODIUM PERIODATE	01/2021	8899	S-97	1*5G	RT
SODIUM PERIODATE	10/2021	9159	S-97	1*100 G	RT
Sodium Peroxide	11/2021	9500	S-46	1*100 G	RT (Chemical room)
Sodium Phosphate Dibasic	10/2020	9478	S-31	2*1K	RT
Sodium Phosphate Dibasic, Heptahydrate	08/2020	9483	S-121	1 * 100 G	RT (Chemical room)
Sodium Phosphate Dodecahydrate	10/2021	9449	S-33	1*2K	RT (Chemical room)
Sodium Phosphate Dodecahydrate	04/2020	8927	S-33	1*500G	RT
Sodium phosphate monobasic	10/2021	9521	S-32	1*1 K	RT
Sodium phosphate monobasic	09/2021	9522	S-32	1*1K	RT
Sodium phosphate monobasic dihydrate	08/2019	8630	S-57	1*1 KG	RT (Chemical room)
Sodium Sulfate Decahydrate	06/2019	8525	S-29	1*100 g	RT
Sodium Sulfate, Anhydrous	05/2020	9356	S-36	1/500 G	RT
Sodium Sulfide	11/2019	8700	S-88	1*10g	Fridge
Sodium Tetraborate	01/2023	9355	S-104	1*500 G	RT (Chemical room)
Sodium Tetraborate	08/2021	8744	S-104	1*100G	RT (Chemical room)
Sodium Thiosulfate Pentahydrate 99.5 % Reagent	02/2019	8394	S-41	1*500 G	RT
Sodium Thiosulfate Pentahydrate 99.5 % Reagent	04/2019	8447	S-41	1*500 G	RT
Starch Soluble	02/2019	9107	S-43	1*100G	RT
STIGMASTEROL	07/2019	8606	S-94	1*1G	RT (Chemical room)
Sulfamic Acid	05/2019	9359	S-71	1*100 G	RT
Tannic Acid	09/2021	9439	T-2	1*50 G	RT (Chemical room)
Tartaric Acid L-(+)	07/2019	8659	T-1	1*100g	RT
Tartaric Acid L-(+)	03/2021	9271	T-1	1*100 G	RT
Tetrabutylammonium bromide, 99%	12/2019	9387	T-10a	1*500 G	RT
Tetrabutylammonium Iodide	05/2021	9334	T-30	1*25 G	RT (Chemical room)
Tetrabutylammonium phosphate monobasic, 99%, HPLC	01/2021	8924	T-81	1*25G	RT (Chemical room)
Theophylline	03/2019	9493	T-21	1*50 G	RT (Chemical room)
Thioacetamide, Crystal	06/2019	8524	T-3	1*25 G	RT
Thioacetamide, Crystal	01/2021	9213	T-3	1*25 G	RT
Thymine	11/2020	9456	T-67	1*5 G	RT (Chemical room)
Thymol Blue	05/2020	8943	T-5a	1*5G	RT
Thymol, minimum 99.5%	11/2020	9139	T-4	1*100G	RT
Trichloroacetic Acid (Reagent)	02/2019	9010	T-14	1*250G	Fridge
Triethylamine Hydrochloride	08/2021	8999	T-24	2*5G	RT (Chemical room)
Trisodium citrate dihydrate, 99%	12/2021	9576	T27	2*2500 G	RT
Tromethamine (Tris)	09/2022	9134	T-22	1*500G	RT
Tryptic Soy Agar	12/2021	9008	T-37	10 X 500G	RT
Tryptic Soy Agar	11/2022	9347	T-37	10 BOTTLES X 500G	RT
Tryptic Soy Agar	03/2021	8648	T-37	10 bottles	fridge
Tryptic Soy Agar Plate (For compressed air)	05/2019	9396	T-83	1 pack x 5 plates	Fridge
Tryptic Soy Broth	12/2020	8733	T-50	10 bottles x	RT
Tryptic Soy Broth	02/2023	9393	T-50	10 BOTTLES X 500G	RT
Tryptic Soy Broth	06/2022	9190	T-50	10 bottles x500g	RT
Tryptone Soya Broth	01/2022	9007	T-36	9 X 500g	RT
Tryptone Soya Broth	02/2022	9006	T-36	1 bottle x 500g	RT
Tryptone soya broth without dextrose	02/2020	8591	T-60	1*500 G	Fridge
TSA Premade	11/2019	9567	T-42	2 packs x 10 bottles	RT
UniVer 3 Hardness Reagent	08/2022	9069	H-27	1pk/100	RT
UniVer 3 Hardness Reagent	05/2020	8122	H-27	100	RT
UniVer 3 Hardness Reagent	01/2023	9219	H-27	2 pk/100	RT
UniVer 3 Hardness Reagent	12/2022	9246	H-27	2* pk/100	RT
Urea	03/2023	9358	U-4	1*100 G	RT (Chemical room)
Vanilin 99% (4-hydroxy-3-methoxy-benzaldehyde)	02/2020	9225	V-1	1*100 G	Desiccator
Vanillin(melting point std)	12/2019	8747	V-1	1*100G	Desiccator
VIOLET RED BILE GLUCOSE AGAR	09/2019	8230	V-14	5 bottles *500g	RT
VIOLET RED BILE GLUCOSE AGAR	04/2019	7767	V-14	3*500 grams	RT
XLD AGAR	10/2020	8511	X-8	4 bottles	RT

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XLD AGAR	03/2022	9545	X-8	5 bottles x500g	RT
XLD AGAR	08/2022	9546	X-8	4 bottles x 500g	RT
Zinc Chloride, Anhydrous	07/2019	8573	Z-3	1*250G	RT
Zinc Dust	05/2020	8647	Z-1	1*500g	RT
Zinc Primary Standard	03/2019	8633	Z-4	1*250 G	RT (Chemical room)
Zinc sulfate heptahydrate	11/2021	8484	Z-7	1*100 G	RT
Zinc, Granule, 20 Mesh	06/2021	9357	Z-8	1*500 G	RT
Zinc, Granule, 20 Mesh	09/2021	9440	Z-8	1*500 G	RT

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