

>  
**AQUATIC TOXICOLOGY**  
No Data Available.

**BIODEGRADATION**  
No Data Available.

### 13 DISPOSAL CONSIDERATIONS

>  
Incinerate or bury in approved landfill. Please be advised that there may be additional local or provincial requirements relating to the disposal of waste. Consult provincial and local regulations regarding the proper disposal of this material.

### 14 TRANSPORT INFORMATION

>  
**Transportation of Dangerous Goods:**  
Proper Shipping Name: Not Regulated

### 15 REGULATORY INFORMATION

>  
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**CEPA:**

All components of this product comply with substance notification requirements under CEPA.

**WHMIS CLASSIFICATION:**

D2A            D2B

### 16 OTHER INFORMATION

>

NFPA/HMIS		CODE TRANSLATION
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles, Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

#### CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
	-----	-----	-----
MSDS status:	24-APR-1997		** NEW **
	30-MAY-1997	2	24-APR-1997

14-AUG-1997 2,3  
16-APR-1998 2,3  
20-MAR-2001 2,3  
04-MAR-2004 16

30-MAY-1997  
14-AUG-1997  
16-APR-1998  
20-MAR-2001



GE Betz

GE Betz Canada, Inc.  
3451 Erindale Station Road  
Mississauga, Ontario L5C 2S9  
Business telephone: (905) 279-2222

Material Safety Data Sheet

Issue Date: 20-AUG-2003

**EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940**

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## 1 PRODUCT IDENTIFICATION

REAGENT NAME:

**POTASSIUM IODIDE-IODATE N/44 (0.023N)**

REAGENT CODE:

**L6105**

REAGENT APPLICATION AREA:

**FIELD TEST REAGENT**

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

>

Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

### HAZARDOUS INGREDIENTS:

Product contains no hazardous ingredients reportable under WHMIS regulation

No component is considered to be a carcinogen by the U.S. National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or under WHMIS.

## 3 HAZARDS IDENTIFICATION

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### EMERGENCY OVERVIEW

May cause slight irritation to the skin. May cause moderate irritation to the eyes. May cause irritation to mucous membranes. Repeated exposure may result in respiratory sensitization.

Odor: None; Appearance: Colorless, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

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#### POTENTIAL HEALTH EFFECTS

##### ACUTE SKIN EFFECTS:

Primary route of exposure; May cause slight irritation to the skin.

##### ACUTE EYE EFFECTS:

May cause moderate irritation to the eyes.

##### ACUTE RESPIRATORY EFFECTS:

May cause irritation to mucous membranes. Repeated exposure may result in respiratory sensitization.

##### INGESTION EFFECTS:

May cause slight gastrointestinal irritation with possible nausea, vomiting, abdominal discomfort and diarrhea.

##### TARGET ORGANS:

No evidence of potential chronic effects.

##### MEDICAL CONDITIONS AGGRAVATED:

Not known.

##### SYMPTOMS OF EXPOSURE:

May cause redness or itching of skin.

## 4 FIRST AID MEASURES

>

##### SKIN CONTACT:

Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

##### EYE CONTACT:

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

##### INHALATION:

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

##### INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

##### NOTES TO PHYSICIANS:

No special instructions

## 5 FIRE FIGHTING MEASURES

>

**FIRE FIGHTING INSTRUCTIONS:**

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

**EXTINGUISHING MEDIA:**

dry chemical, carbon dioxide, foam or water

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**FLASH POINT:**

> 200F > 93C P-M(CC)

## 6 ACCIDENTAL RELEASE MEASURES

>

**PROTECTION AND SPILL CONTAINMENT:**

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container.

Flush area with water. Wet area may be slippery. Spread sand/grit.

**DISPOSAL INSTRUCTIONS:**

The waste characteristics of the absorbed material, or any contaminated soil, should be determined in accordance with provincial regulations.

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement or discharged under provincial regulations.

Incinerate or land dispose in an approved landfill.

## 7 HANDLING & STORAGE

>

**HANDLING:**

Normal chemical handling.

**STORAGE:**

Keep containers closed when not in use. Protect from freezing.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

>

**EXPOSURE LIMITS**

Consult local authorities for acceptable provincial values.

Product contains no hazardous ingredients reportable under WHMIS regulation

**ENGINEERING CONTROLS:**

adequate ventilation

**RESPIRATORY PROTECTION:**

If air-purifying respirator use is appropriate, use a respirator with dust/mist filters.

**SKIN PROTECTION:**

neoprene gloves-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

splash proof chemical goggles

## 9 PHYSICAL & CHEMICAL PROPERTIES

>

Specific Grav. (70F, 21C)	1.000	Vapor Pressure (mmHG)	ND
Freeze Point (F)	ND	Vapor Density (air=1)	ND
Freeze Point (C)	ND		
Viscosity (cps 70F, 21C)	ND	% Solubility (water)	ND

Odor	None
Appearance	Colorless
Physical State	Liquid
Flash Point	P-M(CC) > 200F > 93C
pH As Is (approx.)	8.0
Evaporation Rate (Ether=1)	< 1.00

NA = not applicable ND = not determined

## 10 STABILITY & REACTIVITY

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### STABILITY:

Stable under normal storage conditions.

### HAZARDOUS POLYMERIZATION:

Will not occur.

### INCOMPATIBILITIES:

May react with strong oxidizers.

### DECOMPOSITION PRODUCTS:

Thermal decomposition (destructive fires) yields elemental oxides.

### INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"B"

## 11 TOXICOLOGICAL INFORMATION

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Oral LD50 RAT:	>2,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>2,000 mg/kg
NOTE - Estimated value	

## 12 ECOLOGICAL INFORMATION

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### AQUATIC TOXICOLOGY

No Data Available.

### BIODEGRADATION

No Data Available.

## 13 DISPOSAL CONSIDERATIONS

>

Incinerate or bury in approved landfill. Please be advised that there may be additional local or provincial requirements relating to the disposal of waste. Consult provincial and local regulations regarding the proper disposal of this material.

## 14 TRANSPORT INFORMATION

>

### Transportation of Dangerous Goods:

Proper Shipping Name: Not Regulated

## 15 REGULATORY INFORMATION

>

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

### CEPA:

All components of this product comply with substance notification requirements under CEPA.

### WHMIS CLASSIFICATION:

NOT REGULATED

## 16 OTHER INFORMATION

>

NFPA/HMIS		CODE TRANSLATION
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles, Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

### CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
	-----	-----	-----
MSDS status:	10-FEB-1997		** NEW **
	19-JUN-1997	2,3,8,16	10-FEB-1997
	16-SEP-1997	15	19-JUN-1997
	18-AUG-2000	15	16-SEP-1997
	20-AUG-2003	4	18-AUG-2000



GE Betz

GE Betz Canada, Inc.  
3451 Erindale Station Road  
Mississauga, Ontario L5C 2S9  
Business telephone: (905) 279-2222

Material Safety Data Sheet

Issue Date: 30-JUN-2005

**EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940**

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## 1 PRODUCT IDENTIFICATION

REAGENT NAME:

**PHENOLPHTHALEIN INDICATOR SOLUTION**

REAGENT CODE:

**L212**

REAGENT APPLICATION AREA:

**FIELD TEST REAGENT**

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

### HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range (w/w%)
64-17-5	ETHYL ALCOHOL (ETHANOL) Flammable liquid; irritant (eyes); potential liver and kidney toxin; may cause CNS depression ORAL LD50-RAT: 7,060 MG/KG DERMAL LD50: NO DATA. INHL. LC50-RAT: 20,000 PPM/10HR	40-70
77-09-8	1(3H)-ISOBENZOPURANONE,3,3-BIS(4-HYDROXYPHENYL)-; PHENOLPHTHALEIN POSSIBLE HUMAN CARCINOGEN (NTP animal evidence) ORAL LD50-RAT: >1,000 MG/KG DERMAL LD50: NO DATA. INHL. LC50: NO DATA.	0.1-1.0

## 3 HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW

May cause slight irritation to the skin. May cause dermatitis. May cause moderate irritation to the eyes. Vapors, gases, mists or aerosols may cause irritation to the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

Odor: Alcohol; Appearance: Colorless, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, or foam--Water spray should be used only to cool fire-exposed containers and disperse vapors.

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#### POTENTIAL HEALTH EFFECTS

##### ACUTE SKIN EFFECTS:

Primary route of exposure; May cause slight irritation to the skin. May cause dermatitis.

##### ACUTE EYE EFFECTS:

May cause moderate irritation to the eyes.

##### ACUTE RESPIRATORY EFFECTS:

Primary route of exposure;Vapors, gases, mists or aerosols may cause irritation to the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

##### INGESTION EFFECTS:

May cause gastrointestinal irritation with possible nausea, vomiting, headache, dizziness, unconsciousness and injury to the kidneys and liver.

##### TARGET ORGANS:

Prolonged or repeated exposures may cause CNS depression, defatting-type dermatitis, and/or toxicity to the liver and kidney. Product or product component may increase the risk of cancer based on limited animal data.

##### MEDICAL CONDITIONS AGGRAVATED:

Not known.

##### SYMPTOMS OF EXPOSURE:

Excessive dermal exposure causes defatting and drying of skin. Excessive inhalation of vapors causes dizziness, headache and nausea.

## 4 FIRST AID MEASURES

##### SKIN CONTACT:

Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

##### EYE CONTACT:

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

**INHALATION:**

Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

**INGESTION:**

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

**NOTES TO PHYSICIANS:**

No special instructions

## 5 FIRE FIGHTING MEASURES

**FIRE FIGHTING INSTRUCTIONS:**

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

**EXTINGUISHING MEDIA:**

dry chemical, carbon dioxide, or foam--Water spray should be used only to cool fire-exposed containers and disperse vapors.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**FLASH POINT:**

79F 26C SETA(CC)

## 6 ACCIDENTAL RELEASE MEASURES

**PROTECTION AND SPILL CONTAINMENT:**

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Remove ignition sources. Flush area with water. Spread sand/grit.

**DISPOSAL INSTRUCTIONS:**

The waste characteristics of the absorbed material, or any contaminated soil, should be determined in accordance with provincial regulations. Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement or discharged under provincial regulations. Incinerate or land dispose in an approved landfill.

## 7 HANDLING & STORAGE

**HANDLING:**

Flammable. Store in explosive proof area where electrical equipment meets NFPA code.

**STORAGE:**

Keep containers closed when not in use. Keep away from flames or sparks. Bond containers during filling or discharge when performed at temperatures at or above the product flash point.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE LIMITS**

Consult local authorities for acceptable provincial values.

**CHEMICAL NAME**

ETHYL ALCOHOL (ETHANOL)

PEL (OSHA): 1,000 PPM

TLV (ACGIH): 1,000 PPM

1 (3H) - ISOBENZOFURANONE, 3,3-BIS(4-HYDROXYPHENYL) -; PHENOLPHTHALEIN  
PEL (OSHA): NOT DETERMINED  
TLV (ACGIH): NOT DETERMINED

**ENGINEERING CONTROLS:**

Adequate ventilation to maintain air contaminants below exposure limits.

**RESPIRATORY PROTECTION:**

If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges.

**SKIN PROTECTION:**

neoprene gloves-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

splash proof chemical goggles

## 9 PHYSICAL & CHEMICAL PROPERTIES

Specific Grav. (70F, 21C)	0.930	Vapor Pressure (mmHG)	ND
Freeze Point (F)	ND	Vapor Density (air=1)	ND
Freeze Point (C)	ND		
Viscosity (cps 70F, 21C)	ND	% Solubility (water)	ND

Odor		Alcohol	
Appearance		Colorless	
Physical State		Liquid	
Flash Point	SETA(CC)	79F 26C	
pH As Is (approx.)		5.6	
Evaporation Rate (Ether=1)		< 1.00	

NA = not applicable ND = not determined

## 10 STABILITY & REACTIVITY

**STABILITY:**

Stable under normal storage conditions.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**INCOMPATIBILITIES:**

May react with strong oxidizers.

**DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**INTERNAL PUMPOUT/CLEANOUT CATEGORIES:**

"B"

## 11 TOXICOLOGICAL INFORMATION

Oral LD50 RAT:	>5,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>2,000 mg/kg
NOTE - Estimated value	

## 12 ECOLOGICAL INFORMATION

AQUATIC TOXICOLOGY  
No Data Available.

BIODEGRADATION  
No Data Available.

### 13 DISPOSAL CONSIDERATIONS

Incinerate or bury in approved landfill. Please be advised that there may be additional local or provincial requirements relating to the disposal of waste. Consult provincial and local regulations regarding the proper disposal of this material.

### 14 TRANSPORT INFORMATION

**Transportation of Dangerous Goods:**

Proper Shipping Name: Alcohols, N.O.S.  
(Ethanol)  
PIN: UN1987; Classification: 3; Packing Group III

### 15 REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**CEPA:**

All components of this product comply with substance notification requirements under CEPA.

**WHMIS CLASSIFICATION:**

B2          D2A          D2B

### 16 OTHER INFORMATION

NFPA/HMIS		CODE TRANSLATION
Health	1	Slight Hazard
Fire	3	Serious Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	E	Goggles, Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

#### CHANGE LOG

	EFFECTIVE	REVISIONS TO SECTION:	SUPERCEDES
	DATE		
	-----	-----	-----
MSDS status:	03-MAY-1996	REVISED FORMAT	** NEW **
	24-NOV-1997	2,3,8	03-MAY-1996
	25-NOV-1997	2,3,8	24-NOV-1997
	23-JUL-1999	14	25-NOV-1997
	21-AUG-1999	14	23-JUL-1999
	23-AUG-1999	14	21-AUG-1999
	29-JUL-2002	4,15	23-AUG-1999
	30-JUN-2005	16	29-JUL-2002



**Section 6 (Acute) Release Measures**

**Spill Procedure:** Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic or metal container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

**Section 7 Handling and Storage**

**Handling:** Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

**Storage:** Keep away from sources of ignition. Store in a cool, dry, well ventilated area, away from incompatible substances.

**Section 8 Personal Protection**

**Routes of entry:** Eyes, ingestion, inhalation, and skin.

**Ventilation:** Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

**Personal Protection:** Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

**Section 9 Physical and Chemical Properties**

<b>Physical State:</b>	liquid	<b>Odor:</b>	aromatic	<b>Solubility:</b>	insoluble	<b>Evaporation Rate:</b>	fast
<b>Boiling Point:</b>	41°C	<b>Specific Gravity:</b>	0.94	<b>Vapor Pressure:</b>	2 PSI @21°C	<b>Vapor Density:</b>	2 (Air=1)
						<b>pH:</b>	7

**Section 10 Stability and Reactivity**

**Stability:** Stable at normal temperatures and pressures.

**Conditions to avoid:** Temperatures over 40°C, ignition sources, and incompatible substances.

**Incompatibilities:** Strong oxidizers, acids, and bases.

**Polymerization:** Will not occur.

**Decomposition:** Carbon monoxide, carbon dioxide, salicylic acid.

**Section 11 Toxicological Information**

**Sensitization:** (effects of repeated exposure) No

**Carcinogenicity:** (risk of cancer) No

**Teratogenicity:** (risk of malformation in an unborn fetus) This product contains xylene, a known embryotoxin. Pregnant women must avoid all contact with this product.

**Reproductive Toxicity:** (risk of sterility) No

**Mutagenicity:** (risk of heritable genetic effects) No

**Lethal Exposure Concentrations:**

<b>Ingestion(LD50):</b>	1300 mg/kg (rat)	<b>Inhalation (LC50):</b>	n/e	<b>Skin (LD50):</b>	n/e
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### Section 12: Ecological Information

**General Information:** Avoid runoff into storms and sewers which lead into waterways. Water runoff can cause environmental damage.

**Environmental Impact Data:** (percentage by weight)

**CFC:** 0      **HFC:** 0      **Cl.Solv.:** 0      **VOC:** 100      **HCFC:** 0      **ODP:** 0

### Section 13: Disposal Information

**General Information:** Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

### Section 14: Transportation Information

**Ground:** (all sizes 1 liter or less)

Consumer Commodity, ORM-D

**Air:**

Shipper must be trained and certified. Refer to IATA regulations.

**Sea:**

Shipper must be trained and certified. Refer to IMDG regulations.

### Section 15: Regulatory Information

**SARA** (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depleters.

This product does not contain any class 2 ozone depleters.

This product does not contain any chemicals listed as hazardous air pollutants.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

**Health Canada**

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Container regulations.

**Environment Canada**

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

**Industry and Science Canada**

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.



Registered Quality System **ISO 9001**  
QMJ Certificate #004008  
Toronto, Ontario, Canada

**Section 6: Other Information**

**Definitions:** n/a = not applicable, n/e = not established

**Disclaimer:** This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

# Material Safety Data Sheet

*Rec'd May 8/06*

Product Name <b>RS SPECIAL</b>	Code <b>I-328</b>	Date Completed <b>23-Feb-06</b>
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WHMIS Classification <b>E</b>
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TDG Classification <b>Potassium Hydroxide Solution; Class 8; UN 1814; PG II</b>
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HAZARDOUS INGREDIENTS	%WT/WT	CAS NO.	TOXICITY DATA (LD50 & LC50)
Potassium Hydroxide (45% Sol.)	7-13	1310-58-3	LD50 Oral (rat) 365 mg/kg ACGIH TLV - 2 mg/m3

## PHYSICAL DATA FOR PRODUCT

Physical State Liquid	Vapour Pressure N/A		Vapour Density N/A
pH 13.3 1% Sol. 11.9		Evaporation Rate N/A	
Boiling Point (C) N/A	Sp. Gravity 1.1037	Freezing Point (C) 0	Solubility in Water 100%
Appearance and Odour Clear, green liquid with perfumed odour.			

**FIRE AND EXPLOSION DATA FOR PRODUCT****Fire Extinguishing Substances (√)**

Water fog

CO2

Other

Detail: N/A

Foam

Dry Chem

**Reactivity Data For Product****INCOMPATIBILITY (√)**

Other

Detail:

Chlorinated hydrocarbons.

Acid

Base

Water

Oxidizing Material

**Hazardous Decomposition Products**

Carbon dioxide, carbon monoxide are produced on thermal decomposition.

**Chemical Stability**

Stable

**Hazardous Combustion Products**

Carbon oxides and oxides of phosphorous.

**Special Fire Fighting Procedures**

As for surrounding fire. Wear full protective clothing.

Flammable Limits in air, % by vol. Non-Flammable:

Upper	N/A	Lower	N/A	Flash Point (Test Method)	N/A
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**HEALTH HAZARD INFORMATION FOR PRODUCT****Emergency and First Aid Procedures****Inhalation:** Move to fresh air and get medical attention.**Ingestion:** Rinse mouth well with water. Drink large quantities of water or milk. Do not induce vomiting. Get immediate medical attention.**Eyes:** Flush with plenty of water for 15 minutes. Use eye irrigation fountain if available. Get medical attention.**Skin:** Remove contaminated clothing and flush skin with water. Get medical help.

**EFFECTS OF OVEREXPOSURE (ACUTE AND CHRONIC)**

**Inhalation :** May cause irritation of respiratory tract.

**Ingestion :** Burning in mouth and esophagus; nausea, vomiting, abdominal pain and diarrhea.

**Eyes :** Causes severe irritation to eyes.

**Skin :** Causes irritation. May cause burns.

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**PREVENTIVE MEASURES**

**Spillage** Do not let chemical enter sewers or waterways. With large spills, dyke for later disposal. Neutralize minor spills with dilute acid (hydrochloric or sulphuric) before washing away with plenty of water.

**Waste Disposal Method** Neutralize the waste with acid and bury in a secured sanitary landfill. Follow local, provincial and federal regulations.

**Handling & Storage Requirements** Store in cool, dry area above freezing temperature.

**Ventilation** Use under well ventilated area.

**Respiratory Protection** A mask should be worn.

**Eye Protection** Safety glasses with side-shield.

**Other Protection** Rubber gloves and boots should be worn.

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# MATERIAL SAFETY DATA SHEET



## SU 393

HMIS		NFPA	Personal protective equipment
Health	2	2	<b>None Required</b>
Fire Hazard	3	3	
Reactivity	0	0	

Version Number: 1

Preparation date: 2006-04-25

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** SU 393

**MSDS #:** MS0100543

**Product code:** 81393, 85393

**Recommended use:** Food Processing - Sanitizer.

**Manufacturer, importer, supplier:**  
 US Headquarters: Canadian Headquarters  
 JohnsonDiversey, Inc. JohnsonDiversey - Canada, Inc.  
 8310 16th St. 2401 Bristol Circle  
 Sturtevant, Wisconsin 53177-0902 Oakville, Ontario L6H 6P1  
 Phone: 1-800-233-1000 Phone: 1-800-668-7171

**Emergency telephone number:** 1-800-851-7145 (Prosar), 1-651-917-6133 (Int'l Prosar); 01-800-710-3400 (México)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

WARNING. FLAMMABLE LIQUID AND VAPOR. CAUSES EYE IRRITATION. MAY BE MILDLY IRRITATING TO SKIN. HARMFUL IF INHALED.

**Principle routes of exposure:** Eye contact. Skin contact. Inhalation.

**Eye contact:** Moderately irritating to the eyes.

**Skin contact:** May be mildly irritating to skin. Prolonged or repeated contact may dry skin and cause irritation.

**Inhalation:** May be irritating to nose, throat, and respiratory tract.

**Ingestion:** May cause irritation to mouth, throat and stomach.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### HAZARDOUS COMPONENTS

Ingredient(s)	CAS #	Weight %	LD50 Oral - Rat	LD50 Dermal - Rabbit	LC50 Inhalation - Rat
Isopropyl alcohol	67-63-0	20 - 30%	= 4396 mg/kg	= 12800 mg/kg	= 72.6 mg/L (4h)
Lactic acid	50-21-5	5 - 10%	= 3543 mg/kg	> 2 g/kg	Not available

### 4. FIRST AID MEASURES

**Eye contact:** Flush immediately with plenty of water. If irritation persists, get medical attention.

**Skin contact:** Flush immediately with plenty of water. If irritation develops get medical attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** If swallowed, give a cupful of water or milk.

**Aggravated Medical Conditions:** None known.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Dry chemical, water spray, foam, carbon dioxide.

**Specific hazards:** Not applicable

**Unusual hazards:** None known

**Specific methods:** No special methods required

**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

**Extinguishing media which must not be used for safety reasons:** No information available

### 6. ACCIDENTAL RELEASE MEASURES

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Contaminated surfaces will be extremely slippery. Use personal protective equipment.  
**Environmental precautions and clean-up methods:** Clean-up methods - large spillage. Prevent product from entering drains. Remove all sources of ignition. Ground and bond containers when transferring material. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Use a water rinse for final clean-up.

## 7. HANDLING AND STORAGE

**Handling:** FLAMMABLE LIQUID AND VAPOR. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Avoid breathing vapors or mists. Use only with adequate ventilation. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

**Storage:** Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF THE REACH OF CHILDREN.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures to reduce exposure:**  
Good general ventilation should be sufficient to control airborne levels.

### Personal Protective Equipment

**Eye protection:** No special requirements under normal use conditions.  
**Hand protection:** No special requirements under normal use conditions.  
**Skin and body protection:** No special requirements under normal use conditions.  
**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
Isopropyl alcohol	67-63-0	400 ppm (STEL) 200 ppm (TWA)	400 ppm (TWA) 980 mg/m <sup>3</sup> (TWA)	500 ppm (STEL) 1225 mg/m <sup>3</sup> (STEL) 980 mg/m <sup>3</sup> (TWA) 400 ppm (TWA)

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b> Liquid	<b>Bulk density:</b>	
<b>pH:</b> 2.2	<b>Dilution pH:</b>	No information available.
<b>Appearance:</b> Aqueous solution	<b>Vapor density:</b>	No information available
<b>Color:</b> Colourless	<b>Evaporation Rate:</b>	No information available
<b>Odor:</b> Alcohol	<b>Boiling point/range:</b>	Not determined
<b>Specific gravity:</b> 0.97 g/ml	<b>Melting point/range:</b>	Not determined
<b>Density:</b> No information available.	<b>Decomposition temperature:</b>	Not determined
<b>VOC:</b> 25%	<b>Autoignition temperature:</b>	No information available
<b>Flash point:</b> >84.2 (°F) >29 (°C)	<b>Viscosity:</b>	No information available
<b>Solubility:</b> Soluble	<b>Partition coefficient (n-octanol/water):</b>	No information available
	<b>Solubility in other solvents:</b>	No information available

Elemental Phosphorous: 0%

## 10. STABILITY AND REACTIVITY

**Stability:** The product is stable.  
**Polymerization:** Hazardous polymerization does not occur.  
**Hazardous decomposition products:** None reasonably foreseeable.  
**Materials to avoid:** Oxidising agents.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity** Oral LD50 estimated to be greater than 5000 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

**11. TOXICOLOGICAL INFORMATION**

**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 an ignitable waste . Dispose of according to all federal, state and local applicable regulations .

RCRA Hazard Class: D001

**14. TRANSPORT INFORMATION**

DOT/TDG: Please refer to the Bill of Lading/receiving documents for up to date shipping information

**15. REGULATORY INFORMATION**

**International Inventories**

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), Philippines (PICCS), China (IECSC).

**U.S. Regulations**

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

**STATE RIGHT TO KNOW**

Ingredient(s)	CAS #	MARTK:	NJRTK:	PARTK:	RIRTK:
isopropyl alcohol	67-63-0	X	X	X	X
Water	7732-18-5	-	-	-	-
Lactic acid	50-21-5	-	-	-	-

**CERCLA/ SARA**

Ingredient(s)	CAS #	Weight %	CERCLA/SARA RQ (lbs)	Section 302 TPQ (lbs)	Section 313
isopropyl alcohol	67-63-0	20 - 30%			X

CAA HAP/CAA ODS/CWA Priority Pollutants: None

**SARA 311/312 Hazard Categories**

Immediate: X  
 Delayed:  
 Fire: X  
 Reactivity:  
 Sudden Release of Pressure:

**Canada**

WHMIS hazard class: B2 Flammable liquid , D2B Toxic materials .



Ingredient(s)	CAS #	NPRI
isopropyl alcohol	67-63-0	X

**16. OTHER INFORMATION**

Reason for revision: Not applicable  
 Prepared by: NAPRAC  
 Additional advice: None

*Notice to Reader: This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, express or implied, as to the accuracy of the information contained within. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.*

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PROLIANT  
PROLIANT INC FAX 1 - AMPC LYTON

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001



United States Department of Agriculture

To Whom It May Concern:

Please be advised that all raw materials utilized by Frances Flavoring and Spice, Inc. in the manufacture of Modified Sodium Citrate 100 are food grade product.

We do, however, label packaging of the product "for feed grade use" as we do not use any of this product in our edible plasma production facilities.

If you require additional information please feel free to contact me at the corporate headquarters in Ames, Iowa at (515) 296-7100, or in Denison, Iowa at (712) 263-9301.

Sincerely,

Steve Lankford  
Vice President/International Development

08/21/2006 09:26 FAX

SODIUM METABISULFITE *MSDS*

LA1638

MATERIAL SAFETY DATA SHEET

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UNIVAR CANADA LTD. 9800 VAN HORNE WAY RICHMOND, B.C. V6X 1W5

SALES ORDER: 12514370

UNIVAR CANADA PRODUCT: 63577VRD

MSDS NUMBER: LA1638 VERSION: 3

DATE PRINTED: 26/10/03

ROBALT CORPORATION

C/O OLYMEL RED DEER AB

WHMIS CODES: D.2B

For Emergency Assistance  
Involving Chemicals Call CHEMTREC  
(800) 424-9300

WHMIS (Classification)  
CLASS D-2B: Material causing other  
toxic effects (TOXIC).

## \*\*Section I. Chemical Product Identification\*\*

Product Name	Sodium Metabisulfite	Code	LA1638
Synonym	Sodium Metabisulfite (anhydrous sodium bisulfite, ABS, sodium pyrosulfite)	CAS#	007681574
Chemical Name	Sodium Metabisulfite	DSL	On the DSL list.
Chemical Family	Not available.	CI#	Not available.
Chemical Formula	NA2O5S2		
Material Uses	Industrial applications: Bleaching and disinfectant agent in textile, laundering, paper and fermentation industries.		

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MATERIAL SAFETY DATA SHEET

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## \*\*Section II. Composition and Information on Ingredients\*\*

Name	CAS #	% by Weight	LC50/LD50
Sodium Metabisulfite	007681574	100	Not available.

## \*\*Section III. Hazards Identification\*\*

Potential Acute Health Effects Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Potential Chronic Health Effects CARCINOGENIC EFFECTS: Not available.  
 MUTAGENIC EFFECTS: Not available.  
 TERATOGENIC EFFECTS: Not available.  
 DEVELOPMENTAL TOXICITY: Not available.  
 The substance may be toxic to gastrointestinal tract, upper respiratory tract.  
 Repeated or prolonged exposure to the substance can produce target organs damage.

## \*\*Section IV. First Aid Measures\*\*

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. COLD water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. COLD water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Hazardous Skin Contact Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Hazardous Inhalation Not available.

Ingestion Have conscious person drink several glasses of water or milk. INDUCE VOMITING by sticking finger in throat. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

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Hazardous Ingestion Not available.

**\*\*Section V. Fire and Explosion Data\*\***

The Product is: May be combustible at high temperature.

Auto-Ignition Temperature Not available.

Flash Points Not available.

Flammable Limits Not available.

Products of Combustion Not available.

Fire Hazards in Presence of Various Substances  
 Flammable in presence of oxidizing materials.

Explosion Hazards in Presence of Various Substances  
 Risks of explosion of the product in presence of mechanical impact: Not available.  
 Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions  
 SMALL FIRE: Use DRY chemical powder.  
 LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

Special Remarks on Fire Hazards  
 Decomposition product Sodium Sulfide is a dangerous fire risk.

Special Remarks on Explosion Hazards  
 Not available.

**\*\*Section VI. Accidental Release Measures\*\***

Small Spill  
 Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill  
 Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on

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MATERIAL SAFETY DATA SHEET

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the MSDS and with local authorities.

**\*\*Section VII. Handling and Storage\*\***

**Precautions** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

**Storage** Keep container tightly closed. Keep container in a cool, well-ventilated area.

**\*\*Section VIII. Exposure Controls/Personal Protection\*\***

**Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits** TWA: 5 mg/m3

Consult local authorities for acceptable exposure limits.

**\*\*Section IX. Physical and Chemical Properties\*\***

**Physical State and Appearance** Solid. (Fine, granular.)      **Odor** Pungent sulfur dioxide.

**Molecular Weight** 190.11 g/mole      **Taste** Not available.

**pH (1% soln/water)** 4.3 [Acidic.]      **Color** White.

**Boiling Point** Decomposition temperature: >150°C (302°F)

**Melting Point** 150°C (302°F)

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## MATERIAL SAFETY DATA SHEET

PAGE 5

Critical Temperature Not available.

Specific Gravity 1.48 (Water = 1)

Vapor Pressure Not applicable.

Vapor Density Not available.

Volatility Not available.

Odor Threshold Not available.

Evaporation rate Not available.

Viscosity Not available.

Water/Oil Dist. Coeff. Not available.

Ionicity (in Water) Not available.

Dispersion Properties See solubility in water.

Solubility Easily soluble in cold water.

**\*\*Section X. Stability and Reactivity Data\*\***

Stability The product is stable.

Instability Temperature Not available.

Conditions of Instability Avoid temperatures above 150 Deg C cause evolution of toxic and corrosive gas - sulfur dioxide. Oxidizers may cause strong exothermic reaction. Acids, water and ice yield sulfur dioxide gas, which is toxic and corrosive and potentially deadly. Water and/or ice increases the natural rate of yield of sulfur dioxide gas.

Incompatibility with various substances Highly reactive with oxidizing agents, acids.

Corrosivity Not available.

Special Remarks on Reactivity Hazardous Decomposition Products: Sulfur dioxide gas. Sodium sulfide residue which is flammable, dangerous fire risk, a strong irritant to skin and tissue and incompatible with acids.

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MATERIAL SAFETY DATA SHEET

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Special Remarks Not available.  
on Corrosivity

Hazardous Will not occur.  
Polymerization

**\*\*Section XI. Toxicological Information\*\***

Routes of Entry Eye contact. Inhalation. Ingestion.

Toxicity to LD50: Not available.  
Animals LC50: Not available.

Chronic Effects CARCINOGENIC EFFECTS: Not available.  
on Humans MUTAGENIC EFFECTS: Not available.  
TERATOGENIC EFFECTS: Not available.  
DEVELOPMENTAL TOXICITY: Not available.  
The substance may be toxic to gastrointestinal tract,  
upper respiratory tract.  
Repeated or prolonged exposure to the substance can  
produce target organs damage.

Other Toxic Very hazardous in case of eye contact (irritant), of  
Effects on ingestion, of inhalation. Hazardous in case of skin  
Humans contact (irritant). Inflammation of the eye is  
characterized by redness, watering, and itching.

Special Remarks Not available.  
on  
Toxicity to  
Animals

Special Remarks Medical conditions aggravated by exposure. May cause  
on severe or deadly allergic reactions if inhaled or in some  
Chronic Effects asthmatics and sulphide sensitive individuals.  
on Humans

Special Remarks Contact with acids, water and or/ice, releases sulfur  
on dioxide gas which may be harmful or deadly if inhaled.  
Other Toxic May cause severe or deadly allergic reactions in some  
Effects on Humans asthmatics and sulfite sensitive individuals. Possible  
signs and symptoms of allergic reaction include  
bronchoconstriction, sweating, flushing, hives, rapid  
heart rate, decreased blood pressure and anaphylaxis.

**\*\*Section XII. Ecological Information\*\***

Ecotoxicity Not available.

BOD5 and COD Not available.

Products of Possibly hazardous short term degradation products are not  
Biodegradation likely. However, long term degradation products may arise.

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Toxicity of the Products of Biodegradation      The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation      Not available.

**\*\*Section XIII. Disposal Considerations\*\***

Waste Disposal      Consult your local or regional authorities.

**\*\*Section XIV. Transport Information\*\***

TDG Classification      Not controlled under TDG (Canada).

Shipping name      Not applicable.

FIN      Not applicable.

Packing Group      Not applicable.

Special Provisions for Transport      No additional remark.

**\*\*Section XV. Other Regulatory Information\*\***

Other Regulations      OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**\*\*Section XVI. Other Information\*\***

References      Not available.

Other Special Considerations      Not available.

Validated on March 08 2002.

Tel. number for non-emergency questions concerning MSDS: 1-866-696-4027

**Notice to Reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the

LAL638

MATERIAL SAFETY DATA SHEET

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information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Univar Canada Ltd. expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided.\*\*

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END OF MSDS  
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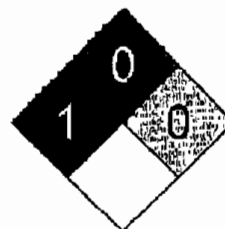
## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

**Product Name** Sodium Chloride; Salt  
**CAS #** 7647-14-5  
**Product use** De-icer. General industrial and water softening/conditioning purposes.  
**Manufacturer** Sifto Canada Inc.  
 6700 Century Ave., Suite 202  
 Mississauga, ON L5N 6A4 CA  
 Phone: 905-567-0231  
**Supplier** Compass Minerals International  
 9900 West 109th Street, Suite 600  
 Overland Park, KS 66210 US  
 Phone: 913-344-9200  
 Website: www.compassminerals.com  
**CHEMTREC** 1-800-424-9300  
**CANUTEC** 1-613-996-6666

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	E



### 2. Hazards Identification

**Emergency overview** CAUTION  
 EYE AND SKIN IRRITANT.

**Potential short term health effects**

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.

**Eyes** May cause irritation.

**Skin** May cause irritation.

**Inhalation** Dusts of this product may cause irritation of the nose, throat, and respiratory tract.

**Ingestion** May cause stomach distress, nausea or vomiting.

**Target organs** Eyes. Skin. Respiratory system.

**Chronic effects** Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms** Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

### 3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium chloride	7647-14-5	60 - 100

### 4. First-Aid Measures

**First aid procedures**

**Eye contact** Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

**Skin contact** Brush away excess of dry material. Flush with water. Obtain medical attention if irritation persists.

**Inhalation** If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

**Ingestion** Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

**Notes to physician** Symptoms may be delayed.

**General advice** None Available.

## 5. Fire Fighting Measures

<b>Flammable properties</b>	Not flammable by WHMIS/OSHA criteria. May be combustible at high temperatures.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.

## 6. Accidental Release Measures

<b>Personal precautions</b>	Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Methods for containment</b>	None necessary.
<b>Methods for cleaning up</b>	Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

## 7. Handling and Storage

<b>Handling</b>	Avoid breathing dusts from this material.
<b>Storage</b>	Keep out of reach of children. Keep containers tightly closed in a cool, well-ventilated place.

## 8. Exposure Controls / Personal Protection

<b>Exposure limits</b>	
<b>Ingredient(s)</b>	<b>Exposure Limits</b>
Sodium chloride	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
<b>Engineering controls</b>	<p>TWA PEL: No specific limits have been established for sodium chloride (a soluble substance). As a guideline, OSHA (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR): 5mg/cu.m. Respirable Dust 8-Hour TWA PEL, 15mg/cu.m. Total Dust 8-Hour TWA PEL.</p> <p>TWA TLV: No specific limits have been established for sodium chloride (a soluble substance). As a guideline, ACGIH (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates (Insolubles) Not Otherwise Classified (PNOC): 10mg/cu.m. Inhalable Particulate 8-Hours TWA TLV, 3mg/cu.m. Respirable Particulate TWA TLV.</p> <p>Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If user operations generate dust, fumes, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.</p>
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Safety glasses.
<b>Hand protection</b>	Rubber gloves. Confirm with a reputable supplier first.
<b>Skin and body protection</b>	As required by employer code.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator or NIOSH-approved filtering facepiece.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

## 9. Physical & Chemical Properties

<b>Appearance</b>	Crystalline.
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Color	White
Form	Crystals
Odor	Odorless.
Odor threshold	Not available
Physical state	Solid
pH	6 - 8 (Neutral)
Melting point	800.9 °C (1473.8 °F)
Freezing point	Not available
Boiling point	1413 °C (2575.4 °F)
Flash point	Not available
Evaporation rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Vapor pressure	0.1 kPa (1 mmHg) @ 865°C
Vapor density	Not applicable
Specific gravity	2.17 (H <sub>2</sub> O = 1)
Octanol/water coefficient	Not available
Solubility (H <sub>2</sub> O)	36g/100g H <sub>2</sub> O @ 20°C
Auto-ignition temperature	Not available
Viscosity	Not applicable
Percent volatile	0 % w/w
Molecular weight	58.4400 g/mole
Molecular formula	NaCl

## 10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with incompatible materials.
Incompatible materials	Reactive with: oxidizing agents, acids, lithium, bromine trifluoride.
Hazardous decomposition products	May include and are not limited to: Chlorine, sodium oxides
Possibility of hazardous reactions	Hazardous polymerization does not occur.

## 11. Toxicological Information

### Component analysis - LC50

Ingredient(s)	LC50
Sodium chloride	> 21000 mg/m <sup>3</sup> rat

### Component analysis - Oral LD50

Ingredient(s)	LD50
Sodium chloride	3000 mg/kg rat

### Effects of acute exposure

Eye	May cause irritation.
Skin	May cause irritation.
Inhalation	Dusts of this product may cause irritation of the nose, throat, and respiratory tract.
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Chronic effects	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Mutagenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Reproductive effects	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Teratogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.

## 12. Ecological Information

Ecotoxicity	Maybe harmful to freshwater aquatic species and to plants that are not saline tolerant.
Environmental effects	Not available
Aquatic toxicity	Not available

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Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available

### 13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Waste must be disposed of in accordance with federal, state/provincial and local environmental control regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

### 14. Transport Information

Department of Transportation (DOT)	Not regulated as dangerous goods.
Transportation of Dangerous Goods (TDG)	Not regulated as dangerous goods.

### 15. Regulatory Information

Canadian federal regulations	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.	
US Federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
	CERCLA/SARA Hazardous Substances - Not applicable.	
Occupational Safety and Health Administration (OSHA)	29 CFR 1910.1200 hazardous chemical      No	
CERCLA (Superfund) reportable quantity	None	
Superfund Amendments and Reauthorization Act of 1986 (SARA)	Hazard categories      Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No	
	Section 302 extremely hazardous substance      No	
	Section 311 hazardous chemical      No	
Clean Air Act (CAA)	Not available	
Clean Water Act (CWA)	Not available	
Safe Drinking Water Act (SDWA)	Not available	
Drug Enforcement Agency (DEA)	Not available	
Food and Drug Administration (FDA)	Not available	
WHMIS status	Not Controlled	
State regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.	
Inventory name		
	Country(s) or region	Inventory name      On inventory (yes/no)*
	Canada	Domestic Substances List (DSL)      Yes
	Canada	Non-Domestic Substances List (NDSL)      No
	United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory      Yes
	A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)	

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## 16. Other Information

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**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

**Issue date**

09-Sep-2005

**Effective date**

01-Sep-2005

**Expiry date**

01-Sep-2008

**Prepared by**

Dell Tech Laboratories Ltd. (519) 858-5021



## BULLETIN DE SÉCURITÉ DU PRODUIT

### SOUDE CAUSTIQUE EN SOLUTION À 50%

**EN CAS D'URGENCE**

: (800) 567-4381

**NIP 1824**

#### 1) RENSEIGNEMENTS SUR LE PRODUIT

NOM CHIMIQUE : Hydroxide de Sodium  
 NOM DE COMMERCE : Soude Caustique Liquide, 50%  
 FAMILLE CHIMIQUE : Alkali  
 FORMULE CHIMIQUE : NaOH  
 CLASSE SIMDUT : Catégorie - E (matières Corrosives)

#### RENSEIGNEMENTS SUR L'EXPÉDITION

NOM : Solution d'hydroxide de sodium  
 CLASSE/DIVISION : 8 (9.2)  
 NIP : UN1824  
 GROUPE D'EMBALLAGE : II  
 FOURNISSEUR : UBA INC  
 829 Route Harwood  
 Vaudreuil-Dorion, QC  
 J7V 8P2

#### 2) COMPOSANTS

	N°CAS	% DU POIDS
HYDROXIDE DE SODIUM	001310-73-2	45.5 à 50.5
CARBONATE DE SODIUM	000497-19-8	< 0.2
CHLORURE DE SODIUM	007647-14-5	< 1.0
EAU	007732-18-5	Poids restant
SOLUTION DE SOUDE CAUSTIQUE A 50%	DL50 indéterminée CL50 indéterminée	

#### 3) DONNÉES PHYSIQUES

ÉTAT PHYSIQUE : liquide incolore et parfois troublé  
 ODEUR : Inodore  
 SEUIL D'ODEUR : (sans objet) (p.p.m.)  
 MASSE VOLUMIQUE : 1,529 (g/cm<sup>3</sup>)  
 TENSION DE VAPEUR : 1mm hg  
 DENSITÉ DE LA VAPEUR : (air = 1): (sans objet)  
 TAUX D'ÉVAPORATION: : (sans objet)  
 POINT D'ÉBULLITION: : (760 MM HG): 142 °C (288 °F)  
 POINT DE CONGÉLATION : 5 - 11 °C (1 - 51 °F)  
 SOLUBILITÉ DANS L'EAU : Solution aqueuse  
 % DE LA VOLATILITÉ : (par volume): 50%  
 PH : Élevé 12 - 14  
 GRAVITÉ SPÉCIFIQUE (H<sub>2</sub>O=1) : 1.530 à 15 °C





**SOUDE CAUSTIQUE 50% LIQUIDE****NIP 1824****AUTRES ÉQUIPEMENTS DE  
PROTECTION PERSONNEL**

: Bottes de sécurité en caoutchouc, tabliers ou vêtements en caoutchouc ou PVC, casque de sécurité en plastique.

**VENTILATION**

: Le système de ventilation doit être en fonction des niveaux d'expositions auxquels sont exposés les employés.

**MESURES EN CAS DE FUITE  
OU DE DÉVERSEMENTS**

: Indiquer la zone pour contenir le déversement. Seules les personnes qualifiées et munies d'appareils respiratoires approuvés, sont autorisées à pénétrer dans la zone contaminée. Récupérer la matière déversée, si possible. Agir avec précaution. Arroser la surface contaminée avec de l'eau et neutraliser seulement ce qui reste avec un acide dilué. Les matières neutralisées (ph 6-9) peuvent être envoyées dans une installation de purification pour déchets liquide, qui permet la décharge de sel neutre. Cette matière neutralisée peut être transportée par camion-aspirateur (voir ci-dessous).

**ÉLIMINATION DES DÉCHETS**

: Les produits chimiques et leurs contenants doivent être éliminés selon un procédé qui prévient toute possibilité de contamination de l'environnement. C'est votre responsabilité de vous conformer aux exigences gouvernementales.

**8) PREMIERS SOINS****YEUX/PEAU**

: Rincer à grande eau les yeux (tenir les paupières ouvertes) et la peau pendant une durée minimum de 15 minutes, tout en enlevant les vêtements et chaussures contaminés. Appeler un médecin. Si la peau semble glissante il faut continuer de se laver car il y reste encore du caustique. Il faut nettoyer à fond les vêtements et jeter les souliers contaminés.

**INGESTION**

: Si la personne est consciente, lui donner une grande quantité d'eau à boire ou des boissons acides (jus d'orange, tomate ou des boissons gazeuses). Ne pas essayer de la faire vomir. Lui procurer de l'aide médicale le plus vite possible. Si la personne vomit lui donner encore de l'eau. Si la personne est inconsciente ou prise de convulsions, l'amener immédiatement à l'hôpital ou chez un médecin. Ne jamais faire ingérer quoique ce soit à une personne inconsciente. Ne pas essayer de la faire vomir.

**RECOMMANDATIONS AUX  
MÉDECINS**

: (Incluant les antidotes): Traitement Symptomatique.

**9) RENSEIGNEMENTS RELATIVES À L'ENVOYEUR****PRÉPARÉ PAR**: UBA INC  
(905) 823-6460**DATE**

: Le avril 1, 2002

Les renseignements précisés sont donnés de bonne foi mais ne constituent aucune garantie implicite ou explicite.

Lavo Limitée  
11900 boul. St-Jean-Baptiste  
Montréal (Québec)  
H1C 2J3

**JAVEL 12 % - LAVO**  
**HYPOCHLORITE DE SODIUM EN SOLUTION**  
(W.H.M.I.S.: CLASS E, D<sub>2</sub>B)

**FICHE SIGNALÉTIQUE**  
Mise à jour: Janvier 2002

**EN CAS D'URGENCE: (514) 626-7783**

**IDENTIFICATION DU PRODUIT:**

Nom du produit: Hypochlorite de sodium en solution  
Nom chimique: Hypochlorite de sodium  
Synonyme(s): Eau de javel  
Famille chimique: Chlorite  
Formule moléculaire: NaOCl  
Usages du produit: Purification de l'eau, agent désinfectant  
Classification SIMDUT: E - Matière corrosive ; D-2B

**COMPOSITION:**

Ingrédients dangereux	%	T.W. A de l'ACGIH	N° CAS
Hypochlorite de sodium	12 - 14	0,5 ppm	7681-52-9

**PROPRIÉTÉS PHYSIQUES:**

Etat physique: Liquide  
Aspect et odeur: Solution aqueuse claire, de teinte jaune verdâtre, à forte odeur de chlore.  
Point d'ébullition (°C): Décomposition lente à 40°C en NaCl et NaClO<sub>3</sub>  
Point de fusion/de congélation: - 25°C pour une solution 12 %  
Tension de vapeur: 17,5 mmHg à 20°C  
Densité de vapeur: Aucune donnée  
Gravité spécifique: Environ 1,165 g/ml  
Taux d'évaporation: Aucune donnée