



## MATERIAL SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Chloride Reagent R1

**Supplier:** Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.R.C 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

Email:Sinsche@sinsche.com

**Emergency telephone:** +86 (755) 82127315 (Mon-Fri 08:30- 18:00)

**Chemical Name:** Not applicable

**CAS No.:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**PIN:** NA

**Intended Use:** Determination of Ozone

**Date of MSDS Preparation:**

**Day:** 21

**Month:** June

**Year:** 2020

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### 2. HAZARDS IDENTIFICATION

**GHS Classification:**

**GHS Label Elements:**



**Emergency Overview:**

**Appearance:** Clear, light pink liquid

**Physical State:** Liquid

**Odor:** Odorless

CAUSES BURNS

**HMIS:**

**Health:** 3

**Flammability:** 0

**Reactivity:** 1

**Protective Equipment:** X - See protective equipment, Section 8.

**Potential Health Effects:**

**Eye Contact:** Causes eye burns.

**Skin Contact:** Causes burns.



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**Skin Absorption:** None Reported

**Target Organs:** None Reported

**Ingestion:** Causes: burns May cause: abdominal pain nausea vomiting thirst diarrhea circulatory collapse  
excitation body temperature reduction

**Target Organs:** None reported

**Inhalation:** Causes: burns May cause: choking coughing chest pain

**Target Organs:** None reported

**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions

**Chronic Effects:** None reported

**Cancer / Reproductive Toxicity Information:**

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** None reported

**Toxicologically Synergistic Products:** None reported

**WHMIS Hazard Classification:** Class E - Corrosive material

**WHMIS Symbols:** Corrosive

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Ferric nitrate	233-899-5	10421-48-4	> 10%
Nitric acid	231-714-2	7697-37-2	< 4%
Demineralized Water	231-791-2	7732-18-5	> 80%

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### 4. FIRST AID MEASURE

**Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician.

**Skin Contact (First Aid):** Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

**Ingestion (First Aid):** Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn.

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not applicable

**Hazardous Combustion Products:** None reported

**Fire / Explosion Hazards:** Drying to completion may form explosive products.

**Static Discharge:** None reported.

**Mechanical Impact:** When dry, explodes with shock, heat or friction.

**Extinguishing Media:** Use media appropriate to surrounding fire conditions



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**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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## 6. ACCIDENTAL RELEASE MEASURES

**Spill Response Notice:**

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**Containment Technique:** Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.

**Clean-up Technique:** Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water.

Decontaminate the area of the spill with a soap solution.

**Evacuation Procedure:** Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

**D.O.T. Emergency Response Guide Number:** 154

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## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product. Perchlorate Material -special handling may apply. In California, see [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).

**Storage:** Store away from: alkalis oxidizable materials combustible materials reducers Do not allow product to dry out. Store between 10° and 25°C. Protect from: light

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Have a safety shower nearby. Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

**Eye Protection:** chemical splash goggles

**Skin Protection:** disposable latex gloves

**Inhalation Protection:** laboratory fume hood

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Use with adequate ventilation. Protect from: light Keep away from: combustible material organic materials alkalis reducers

**TLV:** Not established

**PEL:** Not established

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, light pink liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Odorless

**pH:** <2.0

**Vapor Pressure:** Not determined



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**Vapor Density (air = 1):** Not determined

**Boiling Point:** ~100° C (~212° F)

**Melting Point:** Not determined

**Specific Gravity/ Relative Density (water = 1; air =1):** 1.095

**Evaporation Rate (water = 1):** ~1

**Volatile Organic Compounds Content:** Not applicable

**Coefficient of Water / Oil:** Not applicable

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

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## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Do not heat to dryness. Exposure to light. Extreme temperatures

**Reactivity / Incompatibility:** May react violently in contact with: alkalies reducers organic materials combustible materials

**Hazardous Decomposition:** None reported

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** None reported

**LC50:** None reported

**Dermal Toxicity Data:** None reported

**Skin and Eye Irritation Data:** None reported

**Mutation Data:** None reported

**Reproductive Effects Data:** None reported

**Ingredient Toxicological Data:** Perchloric Acid: Oral rat LD50 = 1100 mg/kg, Oral dog LD50 = 400 mg/kg

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** No ecological data available for this product.

**Ingredient Ecological Information:** No ecological data available for the ingredients of this product.

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## 13. DISPOSAL CONSIDERATIONS

**Special Instructions (Disposal):** Work in an approved fume hood. Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.

**Empty Containers:** Rinse three times with an appropriate solvent. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. Dispose of empty container as normal trash.



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**NOTICE (Disposal):** These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. Perchlorate Material- special handling may apply. In California, see [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).

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## 14. TRANSPORT INFORMATION

**T.D.G.:**

**Proper Shipping Name:** Perchloric Acid Not more than 50%

**Hazard Class:** 8

**PIN:** 1802

**Group:** II

**Subsidiary Risk:** 5.1

**Additional Information:** There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

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## 15. REGULATORY INFORMATION

**National Inventories:**

**Canadian Inventory Status:** All ingredients of this product are DSL Listed.

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

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## 16. OTHER INFORMATION

**References:** TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. In-house information. Technical Judgment.

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**Legend:**

NA - Not Applicable w/w - weight/weight

ND - Not Determined w/v - weight/volume

NV - Not Available v/v - volume/volume

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE.**

**HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**



## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Chloride Reagent R2

**Supplier:** Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.RC 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

Email:Sinsche@sinsche.com

**Emergency telephone:** +86 (755) 82127315 (Mon-Fri 08:30- 18:00)

**Chemical Name:** Not applicable

**CAS No.:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**PIN:** NA

**Intended Use:** Determination of Ozone

**Date of MSDS Preparation:**

**Day:** 21

**Month:** June

**Year:** 2020

### 2. HAZARDS IDENTIFICATION

**CHS Classification**

**Most Important Hazards**

**According to ABNT NBR 14725-2**

Corrosive to metals	Category 1 - (H290)
Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 2 - (H310)
Acute toxicity - Inhalation (Dusts/Mists)	Category 3 - (H331)
Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

**Label elements**

**Signal word - Danger**



**Corrosion**

**Skull and crossbones**

**Health hazard**

**Environment**

**Hazard statements**

H290 - May be corrosive to metals

H301 - Toxic if swallowed

H310 - Fatal in contact with skin

H314 - Causes severe skin burns and eye damage

H331 - Toxic if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

**Precautionary statements**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P234 - Keep only in original container

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower



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P363 - Wash contaminated clothing before reuse

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P310 - Immediately call a POISON CENTER or doctor/physician

P390 - Absorb spillage to prevent material damage

P405 - Store locked up

P406 - Store in corrosive resistant stainless steel container with a resistant inliner

P501 - Dispose of contents/ container to an approved waste disposal plant

## **Other Hazards Known**

Not applicable

## **3. COMPOSITION / INFORMATION ON INGREDIENTS**

Name	EC No.	CAS-No.	Content
Mercuric thiocyanate	209-773-0	592-85-8	<1%
Methanol	200-659-6	67-56-1	>90%

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## **4. FIRST AID MEASURES**

**Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician.

**Skin Contact (First Aid):** Wash skin with soap and plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

**Ingestion (First Aid):** Induce vomiting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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## **5. FIRE FIGHTING MEASURES**

**Flammable Properties:** Flammable liquid and vapors. Can burn in fire, releasing toxic vapors.

**Flash Point:** 12°C; 54°F

**Method:** Closed cup

**Flammability Limits:**

**Lower Explosion Limits:** 6.7%

**Upper Explosion Limits:** 36.5%

**Autoignition Temperature:** 385°C; 725°F

**Hazardous Combustion Products:** Toxic fumes of: mercury carbon monoxide, carbon dioxide.

**Fire / Explosion Hazards:** Flammable Liquid Do not expose to flames. Do not expose to sparks or other ignition sources. May react violently with: strong oxidizers

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Carbon dioxide Alcohol foam. Dry chemical.

**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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## **6. ACCIDENTAL RELEASE MEASURES**

**Spill Response Notice:**





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Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**Containment Technique:** Releases of this material may contaminate the environment. Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. Cover spilled liquid with a commercially available flammable liquid sorbent such as vapor barrier blanket or activated carbon to avoid evolution of fumes. Vapors may travel to a source of ignition and flash back. May be ignited by: heat, sparks, or flames. Material will float on water creating a fire hazard. Dike the material to create a barrier to combustibles.

**Clean-up Technique:** Eliminate all sources of ignition. Mercury and its compounds are extremely toxic! Be extremely careful not to contact the spill or breathe any vapors. Absorb spilled liquid with non-reactive sorbent material. Sweep up spilled material and absorbent with non-sparking tools. Dispose of material in government approved hazardous waste facility. Dispose of all mercury contaminated material at a government approved hazardous waste facility. Decontaminate area with commercially available mercury absorbing compounds.

**Evacuation Procedure:** Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

**D.O.T. Emergency Response Guide Number:** 131

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## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Protect from: sparks, flames and other ignition sources light Keep away from: oxidizers

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Have an eyewash station nearby. Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

**Eye Protection:** chemical splash goggles

**Skin Protection:** nitrile gloves lab coat

**Inhalation Protection:** laboratory fume hood

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Protect from: light heat sparks, flames and other ignition sources Keep away from: oxidizers

**TLV:** Not established

**PEL:** Not established

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Alcoholic

**pH:** Not available

**Vapor Pressure:** 100 mm @ 100°C (212°F)

**Vapor Density (air = 1):** 1.11

**Boiling Point:** 65°C; 149°F

**Melting Point:** -98°C; -144°F

**Specific Gravity/ Relative Density (water = 1; air =1):** 0.79



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**Evaporation Rate (water = 1):** 5.9

**Volatile Organic Compounds Content:** ~100%

**Coefficient of Water / Oil:** Not applicable

**Solubility:**

**Water:** Miscible

**Acid:** Not determined

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

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## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Exposure to light. Extreme temperatures

**Reactivity / Incompatibility:** Incompatible with: oxidizers

**Hazardous Decomposition:** Toxic fumes of: mercury carbon monoxide carbon dioxide

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** None reported

**LC50:** None reported

**Dermal Toxicity Data:** Methanol Skin monkey LDLo = 393 mg/kg; Methanol Skin rabbit LD50 = 15800 mg/kg;

Mercuric Thiocyanate Skin rat LD50 = 685 mg/kg

**Skin and Eye Irritation Data:** Methanol Skin rabbit 20 mg/24H - MODERATE; Methanol Eye rabbit 100 mg/24H MODERATE

**Mutation Data:** Methanol: DNA inhibition - Human - Lymphocytes - 300 mmol/l; DNA damage - Oral rat - 10µg/kg

**Reproductive Effects Data:** Methanol: Inhalation mouse 1500 ppm/6H Specific developmental abnormalities -

Central nervous system; Inhalation rat 10000 ppm/7H Embryo or Fetus - Fetotoxicity Inhalation rat 20000

ppm/7H Specific developmental abnormalities - musculoskeletal, endocrine system, cardiovascular,urogenital

**Ingredient Toxicological Data:** Methanol Oral rat LD50 = 5628 mg/kg; oral human LDLo = 143 mg/kg; Mercuric

Thiocyanate Oral rat LD50 = 46 mg/kg

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --

No ecological data available for this product.

**Ingredient Ecological Information:** --

No ecological data available for the ingredients of this product.

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## 13. DISPOSAL CONSIDERATIONS

**Special Instructions (Disposal):** Decontaminate any equipment or surfaces that have come in contact with mercury with commercially available mercury absorbing compounds. Dispose of all mercury contaminated material at an E.P.A.hazardous waste facility. Dispose of material in an E.P.A. approved hazardous waste facility.



# Shenzhen Sinsche Technology Co.,Ltd

**Empty Containers:** Rinse three times with an appropriate solvent. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste.

**NOTICE (Disposal):** These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

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## 14. TRANSPORT INFORMATION

**T.D.G.:**

**Proper Shipping Name:** Methanol Solution

**Hazard Class:** 3.2

**PIN:** 1230

**Group:** II

**Subsidiary Risk:** 6.1

**Additional Information:** There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

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## 15. REGULATORY INFORMATION

**National Inventories:**

**Canadian Inventory Status:** All ingredients of this product are DSL Listed.

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

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## 16. OTHER INFORMATION

**References:** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Technical Judgment. Vendor Information.

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**Legend:**

NA - Not Applicable w/w - weight/weight

ND - Not Determined w/v - weight/volume

NV - Not Available v/v - volume/volume

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