

# **MATERIAL SAFETY DATA SHEET**

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nitrite nitrogen Reagent C1
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 Nitrite

Date of MSDS Preparation:

Day: 21
Month: June
Year: 2019

# 2. HAZARDS IDENTIFICATION

### **CHS Classification**

# **Most Important Hazards**

# According to ABNT NBR 14725-2

Corrosive to metals	Category 1
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

## **Label elements**

Signal word - Warning

# **Hazard statements**

H290 - May be corrosive to metals

H315 - Causes skin irritation

H319 - Causes serious eye irritation



Corrosion



### **Precautionary statements**

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

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

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

present and easy to

do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P234 - Keep only in original packaging

P390 - Absorb spillage to prevent material damage

# **Other Hazards Known**

Not applicable

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# 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Phosphoric acid	231-633-2	7664-38-2	<30%
Demineralized	231-791-2	7732-18-5	>70%
Water			

## 4. FIRST AID MEASURES

*General Information:* In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

Advice to doctor: Treat symptomatically.

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.

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

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

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## **5. FIRE FIGHTING MEASURES**

*Flammable Properties:* Not Flammable, but reacts with most metals to form flammable hydrogen gas. During a fire,corrosive and toxic gases may be generated by thermal decomposition.

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

Extinguishing Media: Use media appropriate to surrounding fire conditions

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: Contact with metals gives off hydrogen gas which is flammable

Hazardous Combustion Products: This material will not burn.

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## **6. ACCIDENTAL RELEASE MEASURES**



### Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**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 a dry acid, such as citric or boric. Scoop up slurry into a large beaker. 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

DOT Emergency Response Guide Number: 154

## 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.

plan)when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

Storage: Keep away from: metals Protect from: heat

Flammability Class: Not applicable

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Maintain adequate ventilation to keep vapor level below TWA for chemicals in this product. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:** 

Eye Protection: chemical splash goggles

**Skin Protection:** disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat

Inhalation Protection: adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Use with adequate ventilation. Protect from: heat Keep away from: metals

**TLV:** Not established **PEL:** Not established

For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

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# 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid

Physical State: Liquid

Molecular Weight: Not applicable

**Odor:** Acidic

Odor Threshold: Not available

**pH:** <1.0

**Metal Corrosivity:** 



Corrosivity Classification: Classified as corrosive to metals.

Steel: Not determined

Aluminum: Not determined

Specific Gravity/ Relative Density (water = 1; air =1): 1.073

Viscosity: Not applicable

Solubility:

Water: Miscible

Acid: Miscible

Other: Not determined

Partition Coefficient (n-octanol / water): Not applicable

Coefficient of Water / Oil: Not applicable

Melting Point: Not determined

**Decomposition Temperature:** Not applicable

**Boiling Point:** 99° C (210° F)

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined Evaporation Rate (water = 1): 0.71

Volatile Organic Compounds Content: Not applicable

Flammable Properties: Not Flammable, but reacts with most metals to form flammable hydrogen gas. During a

fire, corrosive and toxic gases may be generated by thermal decomposition.

Flash Point: Not applicable
Method: Not applicable
Flammability Limits:

Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Autoignition Temperature: Not applicable

**Explosive Properties:** 

Not classified according to GHS criteria.

Oxidizing Properties:

Not classified according to GHS criteria.

**Reactivity Properties:** 

Not classifed as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Gas under Pressure:

Not classified according to GHS criteria.

# 10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

**Mechanical Impact:** None reported **Static Discharge:** None reported.

**Reactivity / Incompatibility:** May react violently in contact with: strong bases sulfites Incompatible with: plastics **Hazardous Decomposition:** Contact with metals may release flammable hydrogen gas. Heating to decomposition

releases toxic and/or corrosive fumes of: phosphorus oxides

Conditions to Avoid: Extreme temperatures



### 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.

Toxicologically Synergistic Products: None reported

Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data

ATE (mix) Oral LD50 = 11428 mg/kg. ATE (mix) Dermal LD50 = 20392 mg/kg

**Specific Target Organ Toxicity - Single Exposure (STOT-SE):** Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met

Skin Corrosion/Irritation: Irritating to skin.

Phosphoric Acid: Skin rabbit 595 mg/24H - SEVERE *Eye Damage:* Irritating to eyes. Test data follows. Phosphoric Acid: Eye rabbit 199 mg - SEVERE

**Sensitization:** Based on classification principles, the classification criteria are not met. **CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** No germ cell

mutagenicity, carcinogenicity or reproductive toxicity data found.

IARC Listed: No
NTP Listed: No
O.S.H.A. Listed: No
Symptoms/Effects:

Ingestion: May cause: abdominal pain nausea vomiting collapse death

Inhalation: May cause: coughing difficult breathing chest pain irritation of nose and throat

Skin Absorption: None Reported

Chronic Effects: Chronic overexposure may cause dermatitis chronic irritation or inflammation of the lungs

Medical Conditions Aggravated: Persons with impaired liver, kidney or respiratory function may be more

susceptible to the effects of Phosphoric Acid. Pre-existing: Eye conditions Skin conditions

## 2. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product. Mobility in soil: No data available

Ingredient Ecological Information: Phosphoric Acid: Mosquito fish TLm fresh water = 138 ppm/24H

Phosphoric acid: CEPA statement: Persistent, not bioaccumulative or inherently toxic to aquatic organisms.

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## 13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002

**Special Instructions (Disposal):** 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. Dispose of empty container as normal trash. **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. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national



regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

## 14. TRANSPORT INFORMATION

D.O.T.:

D.O.T. Proper Shipping Name: Phosphoric Acid Solution

Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN1805

Packing Group: III

T.D.G.:

Proper Shipping Name: Phosphoric Acid Solution

Hazard Class: 8

Subsidiary Risk: NA

UN Number/PIN: 1805

Packing Group: III

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Phosphoric Acid Solution

Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN1805

Packing Group: III

I.M.O.:

Proper Shipping Name: Phosphoric Acid, Solution

Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN1805

Packing Group: III

Marine Pollutant:

**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

## **U.S. Federal Regulations:**

**O.S.H.A.:** This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard S.A.R.A. Title III Section 313 (40 CFR 372): This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.Phosphoric Acid

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Phosphoric acid 5000 lbs.



304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Phosphoric acid - RQ 5000 lbs.

RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry: Not applicable

**National Inventories:** 

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

CAS Number: Not applicable

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

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

Australian Inventory (AICS) Status: All ingredients are listed.

New Zealand Inventory (NZIoC) Status: All components either listed or exempt.

Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous

compound or exempt.

Japan (ENCS) Inventory Status: All components either listed or exempt.

China (PRC) Inventory (MEP) Status: All components either listed or exempt.

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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. NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards. Cincinnati: Departmentof Health and Human Services, 1981. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed.Baltimore: The Williams and Wilkins Co., 1984. Patty, Frank A. Industrial Hygiene and Toxicology, 3rd Revised Edition. Volume 2. New York: A Wiley-Interscience Publication, 1981. Technical Judgment. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. CCINFO MSDS/FTSS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Vendor Information.

Complete Text of H phrases referred to in Section 3: H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

**Revision Summary:** . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

Date of MSDS Preparation:

**Day:** 29

Month: September

Year: 2014

MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350

**CCOHS Evaluation Note:** This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS.



## 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: Nitrite nitrogen Reagent C2
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 Nitrite

Date of MSDS Preparation:

Day: 21
Month: June
Year: 2019

# 2. HAZARDS IDENTIFICATION

**CHS Classification** 

**Most Important Hazards** 

# According to ABNT NBR 14725-2

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1

# <u>Label elements</u>

Signal word - Danger

# **Hazard statements**

H302 - Harmful if swallowed

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage



**Exclamation mark** 

Corrosion



### **Precautionary statements**

P270 - Do not eat, drink or smoke when using this product

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P330 - Rinse mouth

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

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

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

present and easy to

do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P272 - Contaminated work clothing should not be allowed out of the workplace

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

## **Other Hazards Known**

Not applicable

# 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Sulfanilamide	200-563-4	63-74-1	<10%
Sodium chloride	231-598-3	7647-14-5	>80%
N-(1-Naphthyl)ethylenediamine	215-981-2	1465-25-4	<1%
dihydroc			

## 4. FIRST AID MEASURE

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

Skin Contact (First Aid): Wash skin with soap and plenty of water. Call physician if irritation develops.

*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: During a fire, this product decomposes to form toxic gases.

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: Toxic fumes of: phosphorus oxides carbon monoxide, carbon dioxide.



Fire / Explosion Hazards: None reported

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Use media appropriate to surrounding fire conditions

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: Stop spilled material from being released to the environment.

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

**Evacuation Procedure:** Evacuate local area (15 foot radius or as directed by your facility's emergency response plan)when: any quantity is spilled.

D.O.T. Emergency Response Guide Number: None

## 7. HANDLING AND STORAGE

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

Storage: Protect from: light heat moisture

# 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

*Engineering Controls:* Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:** 

Eye Protection: safety glasses with top and side shields

**Skin Protection:** disposable latex gloves lab coat **Inhalation Protection:** adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling.

Protect from: light heat moisture

**TLV:** Not established **PEL:** Not established

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White gray powder

Physical State: Solid

Molecular Weight: Not applicable

Odor: Not determined pH: Not available

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable



**Boiling Point:** Not applicable **Melting Point:** 224°C (435°F)

Specific Gravity/ Relative Density (water = 1; air =1): 3.12

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Coefficient of Water / Oil: Not applicable

Solubility:

Water: Soluble

Acid: Not determined
Other: Not determined
Metal Corrosivity:
Steel: 0.057 in/yr
Aluminum: 0.00 in/yr

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions. **Conditions to Avoid:** Excess moisture Extreme temperatures

Reactivity / Incompatibility: None reported

Hazardous Decomposition: Toxic fumes of: phosphorus oxides carbon dioxide carbon monoxide

Hazardous Polymerization: Will not occur.

# 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: Chromatropic Acid: Oral rat LD50: >5000 mg/kg, Potassium Phosphate Monobasic:

Oral rat LD50 = 7100 mg/kg, Potassium Pyrosulfate: Oral rat LD50 = 2340 mg/kg

# 12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product. Mobility in soil: No data available

Ingredient Ecological Information:

# 13. DISPOSAL CONSIDERATIONS

**Special Instructions (Disposal):** Dilute material with excess water making a weaker than 5% solution. 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.

**Empty Containers:** Rinse three times with an appropriate solvent. Dispose of empty container as normal trash. **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: Not Currently Regulated

Hazard Class: NA

PIN: NA Group: NA

Subsidiary Risk: NA

**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.

## **15. REGULATORY INFORMATION**

## **National Inventories:**

Canadian Inventory Status: All ingredients of this product are DSL/NDSL 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.

### **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. 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. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

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