

The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

<u>Product</u>	<u>MSDS</u>	<u>Distributor</u>	<u>Format</u>	<u>Language</u>	<u>Quantity</u>
2106169	N/A	Hach Company	ROWGHS	English	1

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Total Enclosures: 1

World Headquarters  
Hach Company  
P.O.Box 389  
Loveland, CO USA 80539  
(970) 669-3050

MSDS No: M00049

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** NitraVer ® 5 Nitrate Reagent

**Catalog Number:** 2106169

Hach Company  
P.O.Box 389  
Loveland, CO USA 80539  
(970) 669-3050

Emergency Telephone Numbers:  
(Medical and Transportation)  
(303) 623-5716 24 Hour Service  
(515)232-2533 8am - 4pm CST

**MSDS Number:** M00049

**Chemical Name:** Not applicable

**CAS Number:** Not applicable

**Additional CAS No. (for hydrated forms):** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Mixture

**Intended Use:** Laboratory Reagent Determination of nitrate

## 2. HAZARDS IDENTIFICATION

### GHS Classification:

**Hazard categories:** Acute Toxicity: Acute Tox. 4-Orl Acute Toxicity: Acute Tox. 3-Inh Skin Corrosion/Irritation: Skin Irrit. 2 Respiratory or Skin Sensitization: Skin Sens.1 Serious Eye Damage/Eye Irritation:Eye Irrit. 2 Germ Cell Mutagenicity: Muta. 2 Carcinogenicity: Carc. 1B Reproductive Toxicity: Repr. 2 Specific Target Organ Toxicity - Repeated Exposure: STOT RE. 2 Hazardous to the Aquatic Environment: Aquatic Chronic 1 Hazardous to the Aquatic Environment: Aquatic Acute 1

### GHS Label Elements:

DANGER



**Hazard statements:** Harmful if swallowed. Toxic if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of causing genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

**Precautionary statements:** Obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves / protective clothing / eye protection / face protection. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### HMIS:

**Health:** 3

**Flammability:** 1

**Reactivity:** 0

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

### NFPA:

**Health:** 3  
**Flammability:** 1  
**Reactivity:** 0  
**Symbol:** Not applicable  
**WHMIS Hazard Classification:** Class D, Division 1, Subdivision A - Very toxic materials (immediate effects)  
**WHMIS Symbols:** Acute Poison Other Toxic Effects

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:**

**Potassium Phosphate, Monobasic**

**CAS Number:** 7778-77-0  
**Chemical Formula:**  $\text{KH}_2\text{PO}_4$   
**GHS Classification:** Acute Tox. 4 - Or1, H302; Eye Irrit. 2, H319  
**Percent Range (Trade Secret):** 30.0 - 40.0  
**Percent Range Units:** weight / weight  
**PEL:** 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust  
**TLV:** 10 mg/m<sup>3</sup> as inhalable fraction; 3 mg/m<sup>3</sup> as respirable fraction

**WHMIS Symbols:** Not applicable

**Sulfanilic Acid**

**CAS Number:** 121-57-3  
**Chemical Formula:**  $\text{C}_6\text{H}_7\text{NO}_3\text{S}$   
**GHS Classification:** Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2A, H319; Aquatic Chronic 3, H412  
**Percent Range (Trade Secret):** 25.0 - 30.0  
**Percent Range Units:** weight / weight  
**PEL:** 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Other Toxic Effects

**Gentisic Acid**

**CAS Number:** 490-79-9  
**Chemical Formula:**  $\text{C}_7\text{H}_6\text{O}_4$   
**GHS Classification:** Acute Tox. 4 - Or1, H302; Eye Irrit. 2A, H319  
**Percent Range (Trade Secret):** 20.0 - 30.0  
**Percent Range Units:** weight / weight  
**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Not applicable

**Cadmium**

**CAS Number:** 7440-43-9  
**Chemical Formula:** Cd  
**GHS Classification:** Acute Tox. 3-Or1, H301; Acute Tox. 2-Inh, H330; Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT Rep. 1, H372; Aquatic Chronic 1, H410  
**Percent Range (Trade Secret):** 3-9  
**Percent Range Units:** weight / weight  
**PEL:** 0.005 mg/m<sup>3</sup>  
**TLV:** 0.01 mg/m<sup>3</sup> as inhalable dust; 0.002 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Acute Poison

**Nitrate Extraction Powder**

**CAS Number:** 9003-05-8  
**Chemical Formula:**  $(\text{C}_3\text{H}_5\text{NO})_x$   
**GHS Classification:** Aquatic Chronic 1, H410  
**Percent Range (Trade Secret):** < 0.1  
**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Not applicable

**Hazardous Components according to GHS:** No  
**Magnesium Sulfate**

**CAS Number:** 7487-88-9

**Chemical Formula:** MgSO<sub>4</sub>

**GHS Classification:** Not applicable

**Percent Range (Trade Secret):** 5.0 - 10.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Not applicable

**Copper (II) Malonate**

**CAS Number:** 7268-92-0

**Chemical Formula:** C<sub>3</sub>H<sub>2</sub>O<sub>4</sub>Cu

**GHS Classification:** Not applicable

**Percent Range (Trade Secret):** < 0.5

**Percent Range Units:** weight / weight

**PEL:** 1 mg Cu/m<sup>3</sup>

**TLV:** 1 mg Cu/m<sup>3</sup>

**WHMIS Symbols:** Not applicable

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## 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):** Remove contaminated clothing. Wash skin with soap and plenty of water. Call physician if irritation develops.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Call physician.

**Ingestion (First Aid):** Administer milk or beaten egg whites at frequent intervals. Induce vomiting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.

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

**Extinguishing Media:** Water. Carbon dioxide. Dry chemical.

**Extinguishing Media NOT To Be Used:** Not applicable

**Fire / Explosion Hazards:** May react violently with: strong oxidizers. hydrazoic acid. ammonium nitrate

**Hazardous Combustion Products:** Toxic fumes of: cadmium oxide. nitrogen oxides. sulfur oxides. phosphorus oxides. carbon monoxide, carbon dioxide.

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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:** Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

**Clean-up Technique:** Avoid breathing spilled material. Avoid contact with spilled material. If permitted by regulation, Sweep up material. Dispose of material in government approved hazardous waste facility. Decontaminate the area of the spill with a soap solution. Otherwise, Pick up spill for disposal and place in a closed container. Dispose of in accordance with local, state and federal regulations or laws.

**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.

**DOT Emergency Response Guide Number:** 171

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## 7. HANDLING AND STORAGE

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

**Storage:** Store between 10° and 25°C. Keep away from: oxidizers hydrazoic acid Ammonium Nitrate

**Flammability Class:** Not applicable

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Maintain adequate ventilation to keep vapor level below TWA for chemicals in this product. Use a fume hood to avoid exposure to dust, mist or vapor.

**Personal Protective Equipment:**

**Eye Protection:** safety glasses with top and side shields

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

**Inhalation Protection:** laboratory fume hood and / or half-face respirator with HEPA filter

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Keep away from: oxidizers

**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:** Gray powder

**Physical State:** Solid

**Molecular Weight:** Not applicable

**Odor:** Odorless

**Odor Threshold:** Not applicable

**pH:** 2.8 (5% solution)

**Metal Corrosivity:**

**Corrosivity Classification:** Not classified as corrosive to metals according to GHS criteria.

**Steel:** 0.081 in/yr

**Aluminum:** 0.000 in/yr

**Specific Gravity/ Relative Density (water = 1; air =1):** 2.0

**Viscosity:** Not applicable

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Partition Coefficient (n-octanol / water):** Not determined

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

**Melting Point:**

**Decomposition Temperature:** Not determined

**Boiling Point:** Not applicable

**Vapor Pressure:** Not applicable

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

**Evaporation Rate (water = 1):** Not applicable

**Volatile Organic Compounds Content:** Not applicable

**Flammable Properties:** Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not determined

**Explosive Properties:**

Not classified according to GHS criteria.

**Oxidizing Properties:**

Not classified according to GHS criteria.

**Reactivity Properties:**

Not classified 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.

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## 10. STABILITY AND REACTIVITY

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

**Mechanical Impact:** None reported

**Static Discharge:** None reported.

**Reactivity / Incompatibility:** Incompatible with: oxidizers hydrazoic acid ammonium nitrate sulfur

**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: phosphorus oxides sulfur oxides carbon dioxide carbon monoxide nitrogen oxides

**Conditions to Avoid:** Heat

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## 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Route Data Given Below

Oral Rat/Mouse LD50 = 1367 mg/kg

Dermal Rabbit LD50 > 9339 mg/kg

Inhalation Rat LC50 = 0.89 mg/L/4 hr

**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):** Target Organs Respiratory Tract Kidneys Liver Bone marrow Reproductive system

**Skin Corrosion/Irritation:** Irritating to skin.

**Eye Damage:** Irritating to eyes.

**Sensitization:** Skin Sensitizer Contains a sensitizing compound.

Sulfanilic acid

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** Contains Listed Carcinogen Contains a reproductive toxin.

Cadmium

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen

Cadmium

An ingredient of this mixture is: NTP Listed Group 1: Recognized Carcinogen

Cadmium

An ingredient of this product is an OSHA listed carcinogen.

Cadmium

**Symptoms/Effects:**

**Ingestion:** Harmful May cause: salivation vomiting abdominal pain anemia diarrhea kidney failure central nervous system effects cardiac depression

**Inhalation:** Toxic May cause: coughing headache nausea vomiting chest pain pneumonitis respiratory tract irritation lung damage kidney damage cancer

**Skin Absorption:** May be absorbed through skin. No effects anticipated

**Chronic Effects:** Chronic overexposure may cause cancer liver damage kidney damage bone damage (osteosclerosis)

**Medical Conditions Aggravated:** Pre-existing: Respiratory conditions Kidney conditions Liver conditions

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information: --**

No ecological data available for this product. Do not place in landfill. Recycle appropriately. Do not release into the environment. No bioaccumulation potential

Method Used for Estimation of Aquatic Toxicity of Mixture Summation Method M-factor (Multiplier) for highly toxic ingredients: 100

**Ingredient Ecological Information:**

CEPA categorization for ingredients are as follows:

Polyacrylamide: Persistent and inherently toxic to aquatic organism (PiT). Cadmium, Sulfanilic acid: Persistent, not bioaccumulative and not inherently toxic to aquatic organisms.

Sulfanilic Acid: 96 hr Fish LC50 = 100.4 mg/L; 48 hr Crustacea EC50 = 85.66 mg/L; 72 hr Green algae EC50 = 91 mg/L.

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## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** D006

**Special Instructions (Disposal):** Dispose of material in an E.P.A. approved hazardous waste facility.

**Empty Containers:** Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. 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. 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.

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## 14. TRANSPORT INFORMATION

**D.O.T.:**

**D.O.T. Proper Shipping Name:** Environmentally hazardous substances, solid, n.o.s.

(Cadmium mixture)

**Hazard Class:** 9

**Subsidiary Risk:** 6.1

**ID Number:** UN3077

**Packing Group:** III

**T.D.G.:**

**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.

(Cadmium mixture)

**Hazard Class:** 9

**Subsidiary Risk:** 6.1

**UN Number/PIN:** 3077

**Packing Group:** III

**I.C.A.O.:**

**I.C.A.O. Proper Shipping Name:** Environmentally Hazardous Substance, Solid, nos

(Cadmium mixture)

**Hazard Class:** 9

**Subsidiary Risk:** 6.1

**ID Number:** UN3077

**Packing Group:** III

**I.M.O.:**

**Proper Shipping Name:** Environmentally Hazardous Substance, Solid, nos

(Cadmium mixture)

**Hazard Class:** 9

**Subsidiary Risk:** 6.1

**ID Number:** UN3077

**Packing Group:** III

**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. ALSO NOTE: If the National Competent Authority declares this product an environmental hazard by Special Provision 909 (IMDG) and Special Provision A97 (IATA) the classification may be UN3077 or UN3082.

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## 15. REGULATORY INFORMATION

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

**O.S.H.A.:** This product contains Cadmium and is regulated under 29CFR Subpart Z 1910.1027. 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 Delayed (Chronic) 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.

Cadmium

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

**304 CERCLA RQ (40 CFR 302.4):** Cadmium 10 lbs.

**304 EHS RQ (40 CFR 355):** Not applicable

**Clean Water Act (40 CFR 116.4):** Not applicable

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

### *State Regulations:*

**California Prop. 65:** WARNING - This product contains a chemical known to the State of California to cause cancer.

**Identification of Prop. 65 Ingredient(s):** Cadmium

**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 or are placed on the market in quantities less than 10 kg per year.

**Australian Inventory (AICS) Status:** Some ingredients are not listed.

**New Zealand Inventory (NZIoC) Status:** Some ingredients are not listed or exempt.

**Korean Inventory (KECI) Status:** Not applicable

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

**China (PRC) Inventory (MEP) Status:** Some ingredients are not listed or exempt.

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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. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. In-house information.

**Complete Text of H phrases referred to in Section 3:** H302 Harmful if swallowed. H330 Fatal if inhaled. H350 May cause cancer. H341 Suspected of causing genetic defects. H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H319 Causes serious eye irritation. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

**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:** 12

**Month:** December

**Year:** 2014

**MSDS Prepared:** MSDS prepared by Product Compliance Department extension 3350

**CCOHS Evaluation Note:** 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. This product has been classified and



labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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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.**

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