

Safety Data Sheet

MURIATIC ACID 20 DEG. F.G.

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 10/13/1999
Revision date: 10/4/2024

SECTION 1: Identification

Identification

Product Name : MURIATIC ACID 20 DEG. F.G.
Product code : AC0023
CAS-No. : MIXTURE
Synonyms : Hydrochloric Acid, Hydrogen Chloride
Recommended use : Acidification (activation) of petroleum wells, scale removal, ore reduction, metal cleaning, industrial acidification.
Restrictions on use : No additional information available

Supplier

Hydrite Chemical Co.
17385 Golf Parkway
Brookfield, WI, 53045
T 262-792-1450

Emergency telephone number

EMERGENCY RESPONSE NUMBERS:
24 Hour Emergency #: (414) 277-1311
CHEMTREC Emergency #: (800) 424-9300

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

GHS US classification

Corrosive to metals Category 1
Acute toxicity (inhalation:dust,mist) Category 4
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
Specific target organ toxicity (repeated exposure) Category 2

GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

May be corrosive to metals
Causes severe skin burns and eye damage
Harmful if inhaled
May cause respiratory irritation
May cause damage to organs (teeth) through prolonged or repeated exposure (Inhalation)

Precautionary statements (GHS US)

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Prevention	: Keep only in original container. Do not breathe mist, vapors. Wash hands, forearms and face thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective clothing, eye protection, face protection, protective gloves.
Response	: If swallowed: rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Get medical advice/attention if you feel unwell. Specific treatment (see supplemental first aid instruction on the SDS). Wash contaminated clothing before reuse. Absorb spillage to prevent material-damage.
Storage	: Store in a well-ventilated place. Keep container tightly closed. Store in a secure manner. Store in corrosive resistant container with a resistant inner liner.
Disposal	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Hazards not otherwise classified

Hazards not otherwise classified	: Reacts with most metals to form explosive/flammable hydrogen gas. May react violently with water. May cause sensitization by inhalation. May be harmful in contact with skin.
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Unknown acute toxicity (GHS US)

Unknown acute toxicity (GHS US)	: 31.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 31.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
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SECTION 3: Composition/Information on ingredients

Substances/ Mixtures

Name	Product identifier	%	GHS US classification
HYDROCHLORIC ACID	CAS-No.: 7647-01-0	~ 31.5	Press. Gas (Comp.), H280 Met. Corr. 1, H290 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:gas), H331 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 2, H373

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

SECTION 4: First-aid measures

Description of first aid measures

First-aid measures general	: Call a physician immediately. Avoid contact with eyes, skin and clothing.
First-aid measures after inhalation	: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.
First-aid measures after skin contact	: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned.
First-aid measures after eye contact	: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Do not attempt to neutralize with chemical agents. Call a physician immediately. Consult an eye specialist.
First-aid measures after ingestion	: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Harmful if inhaled. Vapors or mists irritate or burn the: nose. throat. upper respiratory tract. May cause: respiratory irritation. bleeding of the nose and gums.sore throat. coughing. choking. laryngeal spasms. difficulty breathing. shortness of breath. pulmonary edema. Prolonged exposure may cause: burns and ulcers to the nose and throat. dental erosions. Symptoms of exposure may be delayed by several hours.
Symptoms/effects after skin contact	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Causes severe burns. pain. swelling. blisters. permanent damage. Vapors or mists may cause: Irritation. Burns.
Symptoms/effects after eye contact	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Liquid or mist may cause: Severe eye irritation. Serious damage to eyes. pain. redness, itching, tears. corneal damage. Burns. Can cause blindness. Permanent eye damage.
Symptoms/effects after ingestion	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. May be harmful if swallowed. Burns to the gastric/intestinal mucosa. Symptoms may include: difficulty swallowing. intense thirst. vomiting. digestive tract. pain. stomach/intestinal disorders. Severe exposures may cause: collapse. death. Aspiration can result in severe lung damage or death.
Immediate medical attention and special treatment, if necessary	: No specific antidote known. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide. Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use a heavy water stream.

Specific hazards arising from the chemical

Fire hazard	: May react with certain metals to form explosive/flammable hydrogen gas.
Explosion hazard	: Explosive concentrations of Hydrogen may accumulate inside metal equipment.
Reactivity in case of fire	: Heat can cause evolution of gaseous Hydrogen Chloride.
Hazardous decomposition products	: Toxic fumes may be released. Hydrogen gas. Hydrogen Chloride gas. halogenated compounds.
Firefighting instructions	: Evacuate personnel to a safe area. Do not enter fire area without proper protective equipment, including respiratory protection. Stay upwind/keep distance from source. Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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Other information : Product generates heat upon addition of water, with possible spattering. Neutralize run-off with lime or soda ash to prevent corrosion of metals and formation of hydrogen gas. Run-off from fire control may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures : CORROSIVE MATERIAL.
Protective equipment : Wear recommended personal protective equipment. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Do not exceed the occupational exposure limits (OEL).
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

Environmental precautions

Environmental precautions : Avoid release to the environment. Notify authorities if product enters sewers or public waters.

Methods and material for containment and cleaning up

For containment : Contain spill. Shut off source of leak if safe to do so. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up : Carefully neutralize spilled liquid, using : Sodium carbonate (soda ash), sodium bicarbonate, limestone powder. Adequate ventilation is required to eliminate any carbon or nitrogen oxides emitted during the neutralization process. Repeat the neutralization step if suspected corrosive liquid is still observed. Take up the neutralized liquid into an absorbent material. Place into drums for proper disposal. Flush remaining area with plenty of water to remove trace residue and dispose of properly. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal.
Other information : Dispose of materials or solid residues at an authorized site. CAUTION: This product may react violently with alkalies and water.

SECTION 7: Handling and storage

Precautions for safe handling

Additional hazards when processed : Handle in accordance with good industrial hygiene and safety practice.
Precautions for safe handling : CORROSIVE MATERIAL. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust or mist formation. Avoid breathing dust/fume/gas/mist/vapors/spray. Do NOT taste or swallow. To dilute: Add product slowly to lukewarm water; not water to product. When mixing, slowly add to water to minimize heat generation and spattering. Do not add large quantities of water, excessive heat formation will cause boiling and spattering. Highly corrosive to most metals with evolution of hydrogen gas.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage conditions : Keep in a cool, well-ventilated place away from heat. Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store in a secure manner. Keep out of direct sunlight.
Incompatible materials : Metals. Keep away from incompatibles. Refer to Section 10 on Incompatible Materials.
Storage temperature : Store below 120 °F
Heat-ignition : Keep away from all sources of ignition.
Packaging materials : Keep only in the original container. Do not store in unlabeled or mislabeled containers. Keep container tightly closed. Store in a secure manner.

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SECTION 8: Exposure controls/personal protection

Control parameters

Component	ACGIH	OSHA
HYDROCHLORIC ACID	2 ppm Ceiling	7 mg/m ³ Ceiling

Appropriate engineering controls

- Appropriate engineering controls : Process enclosures or other engineering controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly. General room ventilation and local exhaust are required.
- Environmental exposure controls : Avoid release to the environment.

Individual protection measures/Personal protective equipment

- Personal protective equipment : Wear recommended personal protective equipment. Provide readily accessible eye wash stations and safety showers.
- Hand protection : Protective gloves. Chemical-resistant. Impervious.
- Eye protection : Do not wear contact lenses. Wear chemical safety goggles and a full face shield while handling this product.
- Skin and body protection : Protective gloves: Acid-proof. Impervious. Chemical-resistant. Prevent contact with this product. Wear gloves and protective clothing depending on condition of use.
- Respiratory protection : If exposure limits are exceeded, wear: NIOSH-Approved air-purifying respirator with: Acid gas cartridge. HEPA filter. NIOSH-Approved Supplied Air Respirator (SAR). NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use. Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. In case of inadequate ventilation wear respiratory protection.
- Other information : Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Eye-wash station. Safety shower. Rubber apron. Rubber boots. Protective clothing. Full-rubber acid suit. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : clear.
- Color : Clear. Colorless to faint yellow.
- Odor : Sharp, pungent, irritating odor.
- Odor threshold : No data available
- pH : ≤ 1
- Melting point : Not applicable
- Freezing point : ≤ -35
- Crystallization (Salt Out) Temperature : No data available
- Boiling point : 176 – 183 °F
- Flash point : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : Not applicable.
- Vapor pressure : 15 – 150
- Relative vapor density at 20°C : 1.267

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Relative density	: 1.16 – 1.18
Solubility	: Complete.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Volatility	: 100 %

SECTION 10: Stability and reactivity

Information on stability and reactivity

Reactivity	: No data available.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerization will not occur under normal conditions. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc. Contact with oxidizing agents may produce chlorine gas. Contact with water may cause violent reaction with evolution of heat. To Dilute: add product slowly to lukewarm water; not water to product.
Conditions to avoid	: Avoid excessive heat. Avoid dust or mist formation. Avoid open fire or flames. Keep out of direct sunlight.
Incompatible materials	: alkalis. amines. bases. aldehydes. oleum. perchloric acid. strong acids. nitrates. oxidizing agents. water. alcohols. sulfides. carbonates. reducing agents. fluorine. cyanides. carbides. metal oxides. formaldehyde. acetylides. sulfuric acid. acetic anhydride. sodium. propylene oxide. water-reactive substances. potassium permanganate. hypochlorites. moisture. epoxides. chlorosulfonic acid. vinyl acetate. most metals. hexalithium disilicide. propiolactone.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Chlorine. Hydrogen gas. Hydrogen Chloride gas.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:dust,mist: Harmful if inhaled.

Numerical measures of toxicity

Component	Oral LD50	Dermal LD50	Inhalation LC50
HYDROCHLORIC ACID	No data available	Rabbit: > 5010 mg/kg	Rat (ppm): 1562 ppm/4h Rat (Dust/Mist): 1.04 mg/l/4h

ATE Values: MURIATIC ACID 20 DEG. F.G. (MIXTURE)

ATE US (dust, mist)	3.302 mg/l/4h
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Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified This product contains 0.1% or more of the following chemicals listed by NTP, IARC, or OSHA as known or possible carcinogens: Acid mists, strong inorganic
Reproductive toxicity	: Not classified

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STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs (teeth) through prolonged or repeated exposure (Inhalation).
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Skin and eye contact. Ingestion. Inhalation.
Symptoms/effects after inhalation	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Harmful if inhaled. Vapors or mists irritate or burn the: nose. throat. upper respiratory tract. May cause: respiratory irritation. bleeding of the nose and gums.sore throat. coughing. choking. laryngeal spasms. difficulty breathing. shortness of breath. pulmonary edema. Prolonged exposure may cause: burns and ulcers to the nose and throat. dental erosions. Symptoms of exposure may be delayed by several hours.
Symptoms/effects after skin contact	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Causes severe burns. pain. swelling. blisters. permanent damage. Vapors or mists may cause: Irritation. Burns.
Symptoms/effects after eye contact	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. Liquid or mist may cause: Severe eye irritation. Serious damage to eyes. pain. redness, itching, tears. corneal damage. Burns. Can cause blindness. Permanent eye damage.
Symptoms/effects after ingestion	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS. May be harmful if swallowed. Burns to the gastric/intestinal mucosa. Symptoms may include: difficulty swallowing. intense thirst. vomiting. digestive tract. pain. stomach/intestinal disorders. Severe exposures may cause: collapse. death. Aspiration can result in severe lung damage or death.
Medical Conditions Aggravated by Exposure	: Eye disorders. Respiratory system disorders. Skin disorders.
Other information	: None known.

SECTION 12: Ecological information

Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms. Hydrochloric acid dissociates in water and will be neutralized by naturally occurring alkalinity. The acid will permeate soil, dissolving some soil material and will be somewhat neutralized. Significant ecotoxicity to aquatic organisms and aquatic systems is not expected to be produced by low pH of this product. Below are component ecotoxicity data, expected to be primarily associated with pH.
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HYDROCHLORIC ACID (7647-01-0)

LC50 - Fish [1]	4.92 mg/l Species: Carp (Cyprinus carpio communis); Exposure time: 96 h
EC50 - Crustacea [1]	0.492 mg/l Species: Water flea (Daphnia magna); Exposure time: 48 h
EC50 72h - Algae [1]	0.73 mg/l Source: ECHA
ErC50 algae	0.492 mg/l Species: Green algae (Selenastrum Capricornutum); Exposure time: 72 h
NOEC chronic algae	0.097 mg/l Species: Green algae (Selenastrum Capricornutum); Exposure time: 72 h

Persistence and degradability

MURIATIC ACID 20 DEG. F.G. (MIXTURE)

Persistence and degradability	No data is available on the degradability of this product. Biodegradation is not applicable to inorganic substances.
Bioaccumulative potential	No accumulation in living organisms is expected due to high solubility and dissociation properties.
Mobility in soil	High water solubility indicates a high mobility in soil.

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SECTION 13: Disposal considerations

Disposal methods

Regional waste regulation : U.S. - RCRA (Resource Conservation Recovery Act) - D Series Wastes - Corrosivity D002.
Waste treatment methods : Dispose of in accordance with all local, state and federal regulations.
Additional information : Do not re-use empty containers. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Since emptied containers retain product residue, follow label warnings even after container is emptied. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

SECTION 14: Transport information

Modes of transport

DOT (Department of Transportation):

Identification Number (DOT) : UN1789
Proper Shipping Name (DOT) : Hydrochloric acid
Hazard Class (DOT) : 8
Packing group (DOT) : II
Marine pollutant : No

Labels Required (DOT) : Corrosive



IMDG (International Maritime Dangerous Goods Code):

Identification Number (IMDG) : UN1789
Proper Shipping Name (IMDG) : HYDROCHLORIC ACID
Hazard Class (IMDG) : 8
Packing group (IMDG) : II
Marine pollutant : No
Labels Required (IMDG) : Corrosive substances



IATA (International Air Transport Association):

Identification Number (IATA) : UN1789
Proper Shipping Name (IATA) : Hydrochloric acid
Hazard Classes (IATA) : 8
Packing group (IATA) : II
Marine pollutant : No
Labels Required (IATA) : Corrosive



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Other transport information

The transportation classifications provided on this SDS are for informational purposes only and based upon the properties of the product as described in this document. The listed transportation classifications may not address variations due to changes in package size, mode of shipment, regional or country regulations, or other regulatory descriptors.

DOT RQ Table	
Name	DOT RQ
HYDROCHLORIC ACID	5000 lbs RQ (listed under Hydrochloric acid)

SECTION 15: Regulatory information

US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory or are exempt from TSCA Inventory requirements.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

HYDROCHLORIC ACID	CAS-No. 7647-01-0	~ 31.5%
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Hydrogen Chloride (gas and aerosol forms only) is on the Extremely Hazardous Substance List. In liquid form, Hydrogen Chloride (Hydrochloric Acid) is not required to be reported as an Extremely Hazardous Substance, but is subject to SARA 311 and 312 reporting requirements. Hydrochloric Acid also appears on the Section 313 list; however, the listing only applies to the gas and aerosol forms of Hydrochloric Acid.

HYDROCHLORIC ACID (7647-01-0)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
Section 302 EPCRA Reportable Quantity (RQ)	5000 lb gas only
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

US State regulations

Component	CAS No.	State or local regulations
HYDROCHLORIC ACID	7647-01-0	Wisconsin HAP

SECTION 16: Other information

Hazard Rating System

Health: 3 *
Flammability: 0
Physical: 1

NFPA Rating System

NFPA health hazard: 3
NFPA fire hazard: 0

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NFPA reactivity: 1

Abbreviations and acronyms	
HAP	Hazardous Air Pollutant
VOC	Volatile Organic Compound
STEL	Short Term Exposure Limit
TWA	Total Average Weight
RQ	Reportable Quantity

Revision date: 10/4/2024

Supersedes: 9/27/2022

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Indication of changes: New format.Changes made throughout the SDS.

SDS Prepared by: CV

The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.