

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME: **Hydrochloric Acid 36.5-38%(All Grades)**

PRODUCT NUMBER(S):

176710-ACS Grade

176725-Trace metal Grade

176740-USP/NF Grade

176760-Semiconductor Grade

TRADE NAMES/SYNONYMS: Hydrogen Chloride Aqueous Solution,
Chlorhydric Acid, Muriatic Acid

CAS-No: 7647-01-0

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES
ADVISED AGAINST

RECOMMENDED USE: Manufacture of substances, Laboratory Chemicals

USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: G.J. CHEMICAL CO., INC.

Address: 40 VERONICA AVENUE
SOMERSET, NJ 08873

Telephone: 1-973-589-1450

Fax: 1-973-589-3072

1.4 Emergency Telephone Number

Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)

Corrosive to metals (Category 1), H290

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system,
H335

2.2 GHS Label elements, including precautionary statements



Pictogram

GHS05

GHS07

Signal word

DANGER

Hazard statement(s)

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage

H335 May cause respiratory irritation.

Precautionary statement(s)

Prevention:

P234 Keep only in original container.

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

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

Response:

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

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

P304 + P340 +P310 IF INHALED: Remove victim to fresh air and keep at rest in a position. Immediately call a POISON CENTER/doctor. comfortable for breathing.

P305 + P351 + P338 + P310 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/doctor.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

Disposal:

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

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - non

3. INGREDIENTS

3.1 SUBSTANCE:

Ingredient	CAS No.	% by WT. Range	CLASSIFICATION
Hydrochloric Acid	7647-01-0 EC-No.231-595-7 Index-No.017-002-01-X Reg.-No.01-2119484862-27-XXXX	36.5-38	Corrosive to metals (Category 1), H290 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318 STOT-SE (Category 3), Respiratory System, H335
Water	7732-18-5 EC-No.231-791-2	62-63.5	None

3.2 MIXTURE: Not applicable

4. FIRST-AID PROCEDURES

Emergency and First Aid Procedures:

Inhalation: Hydrochloric Acid

****FIRST AID-** Remove to fresh air immediately. If not breathing give artificial respiration. If breathing is difficult give oxygen. Do not use mouth to mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. Keep warm and quiet.

Eye Contact (Splash): Hydrochloric Acid

****FIRST AID-** Immediately irrigate eyes with water for 15 minutes. Hold eyelids open for complete irrigation. Remove contact lenses, if worn, after initial flush. Do not allow victim to rub or keep eyes closed. Take to a physician.

Skin Contact(Splash): Hydrochloric Acid

****FIRST AID-** Immediately wash affected area with soap and water and rinse for 15 minutes. Remove contaminated clothing and shoes. Immediately get a physician.

Ingestion: Hydrochloric Acid

****FIRST AID-** DO NOT INDUCE VOMITING. If the victim is conscious and alert give 2oz cupfuls of milk or water. Never give anything by mouth to an

unconscious person. Immediately consult a physician or poison control center, treat symptomatically.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED INGESTION:

Eye: May cause irreversible eye injury, vapor or mist may cause irritation and severe burns, contact with liquid is corrosive to the eyes and causes severe burns. May cause painful sensitization to light.

Skin: May be absorbed through skin in harmful amounts, contact with liquid is corrosive and causes severe burns, may cause photosensitization in certain individuals.

Inhalation: May be fatal if inhaled. Causes severe Irritation of the upper respiratory tract with coughing, burns, difficult breathing, and possibly coma. Causes chemical burns to the respiratory tract. May cause pulmonary edema and severe respiratory disturbances.

Ingestion: May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Chronic: Prolonged or repeated skin exposure may cause dermatitis and erosion of teeth. Repeated exposure to low concentrations of HCL vapor or mist may cause bleeding of nose and gums. Chronic bronchitis and gastritis have been reported. Symptoms may be delayed.

Medical Conditions Aggravated by Exposure: Any individuals with chronic respiratory, skin, and digestive diseases. Moisture increases the severity of irritation.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Specific details on antidote:

Notes to Physician: Do not use sodium bicarbonate in an attempt to neutralize the acid.

5. FIRE FIGHTING MEASURES

Flash Point: N.D.

LEL %: NA

Auto-ignition Temp: NA

UEL %: NA

5.1 SUITABLE EXTINGUISHING MEDIA: Foam--> x CO2--> x Dry Chemical--> x Water-fog--> x Other-->

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR

MIXTURE: Not flammable, but reacts with most metals and may evolve flammable hydrogen gas. Vapors may be heavier than air, and can spread along the ground and collect in low or confined areas. Strong dehydrating agent, which may cause ignition of finely divided materials on contact.

CONDITIONS OF FLAMMABILITY: Not flammable or combustible.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including hydrogen chloride, chlorine, hydrogen and other unidentified organic compounds evolve when this material is heated.

5.3 ADVICE FOR FIREFIGHTERS: Shut off source. Wear self contained breathing apparatus in pressure demand or other positive pressure mode and full protective gear for confined spaces. Water run off can cause environmental damage. Dike and collect water used to fight fire.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for cleanup and containment:

Approach spill from upwind. Avoid runoff into storm sewers and ditches, which lead to waterways. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. A vapor suppressing foam may be used to reduce vapors. Absorb spill using a non combustible absorbent such as, earth, sand or vermiculite. Keep all non-essential people away from exposure. Remove contaminated soil to remove contaminated trace residues.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.

REPORTABLE QUANTITY (RQ): 5000 POUNDS; 13158 HCL Solution lbs. The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: Avoid work practices that may release volatile components in the atmosphere. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contaminating soil or releasing material into sewage and drainage systems. Do not take internally. Avoid free fall of liquid in excess of a few inches. Use only with adequate ventilation or respiratory protection. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not allow water to get into container because of violent reaction. Contents may develop pressure upon prolonged storage. Do not get in eyes, on skin, or on clothing. Discard contaminated shoes. Keep away from strong bases and metals. Use caution when opening. Do not use with metal spatula or other metal items. When diluting, the acid should always be added slowly to water and in small amounts.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Do not store in direct sunlight or near combustible materials. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials, separate from oxidizing materials. Keep containers closed when not in use. Keep container in a cool, well ventilated area. Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

CONTAINER WARNINGS: Empty containers release residue and can be dangerous. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

Ingredient	CAS No.	% by WT. Range	Exposure Limits
Hydrochloric Acid	7647-01-0 EC-No.231-595-7 Index-No.017-002-01-X Reg.-No.01-2119484862-27-XXXX	36.5-38	2ppm TWA (ACGIH) 5ppm TWA (OSHA) 5ppm TWA (NIOSH) 50ppm (IDLH)
Water	7732-18-5 EC-No.231-791-2	62-63.5	None

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average

CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES> Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS> Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION> The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

For vapor concentrations 1 to 10 times TWA or PEL an air purifying NIOSH/MSHA Approved respirator with full face-piece and organic vapor cartridges. For concentrations over 10 times TWA or PEL, in confined areas, and/or where vapor concentrations are unknown use a NIOSH/MSHA approved positive pressure full face-piece supplied air respirator.

BODY CLOTHING> Use a complete chemical resistant suit or other impervious clothing. Remove and wash contaminated clothing before reuse.

SKIN PROTECTION> Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 69 min

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION> Use safety eyewear with splash guards or face shield. Maintain shower and eyewash in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Hydrochloric Acid 7647-01-0

Appearance-----> Clear liquid
Color-----> Colorless to pale yellow
Odor-----> Strong pungent odor.
Odor Threshold-----> No data available
pH-----> No data available
Molecular weight-----> 36.46amu
Melting/Freezing Point-----> -30°C (-22°F)
Boiling Range (°F)-----> 110°C 230°F
Specific Gravity-----> 1.18@25°C
Vapor Pressure-----> 160mmHg@20°C
Vapor Density (air=1)-----> 1.25
Water Solubility-----> Soluble
Partition Coefficient N-Octanol/water-> No data available
Evaporation Rate (Butyl Acetate=1)----> >1
Flash Point-----> No data available
Upper Flammability Limit-----> No data available
Lower Flammability Limit-----> No data available
Auto-ignition Temperature-----> No data available
Decomposition Temperature-----> No data available
Viscosity-----> No data available
Explosive Properties-----> No data available
Oxidizing Properties-----> No data available

9.2 Other information-----> No data available

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: No data available.

HAZARDOUS POLYMERIZATION--> May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID> Heat, and Open Flame

10.5 INCOMPATIBLE MATERIALS--> Metals, strong oxidizing agents, strong reducing agents, bases, acetic anhydride, alcohols, amines, sulfuric acid, vinyl acetate, epoxides (butyl glycidyl ether), chlorosulfonic acid, carbides, beta-propiolactone, ethyleneamine, propyleneoxide, lithium silicides, 2-aminoethanol, 1,1-difluoroethylene, magnesium boride, mercuric sulfate, aldehydes, cyanides, sulfides and phosphides.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS--> Hydrogen Chloride, chlorine, and hydrogen gas.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Eye> May cause irreversible eye injury, vapor or mist may cause irritation and severe burns, contact with liquid is corrosive to the eyes and causes severe burns. May cause painful sensitization to light.

Skin> May be absorbed through skin in harmful amounts, contact with liquid is corrosive and causes severe burns, may cause photosensitization in certain individuals.

Inhalation> May be fatal if inhaled. Causes severe Irritation of the upper respiratory tract with coughing, burns, difficult breathing, and possibly coma. Causes chemical burns to the respiratory tract. May cause pulmonary edema and severe respiratory disturbances.

Ingestion> May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Chronic: Prolonged or repeated skin exposure may cause dermatitis and erosion of teeth. Repeated exposure to low concentrations of HCL vapor or mist may cause bleeding of nose and gums. Chronic bronchitis and gastritis have been reported. Symptoms may be delayed.

Medical Conditions Aggravated by Exposure: Any individuals with chronic respiratory, skin, and digestive diseases. Moisture increases the severity of irritation.

Notes to Physician: Do not use sodium bicarbonate in an attempt to neutralize the acid.

ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	 Oral LD50(Rat)	 Skin LD50(Rabbit) 	Inhalation LC50	

Hydrochloric Acid		3124ppm/1hr
-------------------	--	-------------

Skin corrosion/irritation: Skin - Rabbit (Hydrochloric acid) Result: Causes burns.

Serious eye damage/irritation: Eyes - Rabbit (Hydrochloric acid) Result: Corrosive to eyes

Respiratory or skin sensitization: Did not cause sensitization on laboratory animals. (Hydrochloric acid)

MUTAGENIC EFFECTS: No data available

CARCINOGEN STATUS:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: No data available.

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. (Hydrochloric acid)

Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): The substance or mixture is not classified as specific target organ toxicant, repeated exposure

Teratogenicity: Female rats were exposed to 450mg/m³ of HCL for 1 hour prior to mating or on day 9 of pregnancy. Developmental effects were observed in the offspring. However, this exposure caused toxic effects, including mortality, in the mothers.

Neurotoxicity: No information available.

ASPIRATION HAZARD: No aspiration toxicity classification (Hydrochloric acid)

ADDITIONAL DATA: Inhalation of vapors may cause: burning sensation, Cough, wheezing, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema (Hydrochloric acid)
RTECS:MW 4025000

12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE

May be dangerous if it enters water intakes.
Notify local health and pollution control officials.
Notify operators of nearby water intakes.

12.1 AQUATIC TOXICITY:

Toxicity to Fish:

LC50 - Lepomis macrochirus (Bluegill) - 24.6 mg/l - 96 h (Hydrochloric acid)
LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - 4.91 mg/l - 48 h (Hydrochloric acid)

12.2 PERSISTENCE AND DEGRADABILITY: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 BIOACCUMULATIVE POTENTIAL: No data available

12.4 MOBILITY IN SOIL: No data available

12.5 RESULTS OF PBT AND vPvB :

PBT assessment results: This substance is not classified as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: May be harmful to aquatic organisms due to the shift of the pH

ENVIRONMENTAL FATE: Will exhibit extensive evaporation from soil surfaces. Upon transport through the soil, hydrochloric acid will dissolve some of the soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Contact a licensed professional waste disposal service to dispose of this material. Hazard characteristic and regulatory

waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. Incinerate or biologically treat under controlled conditions in a permitted facility.

CONTAMINATED PACKAGING: Dispose of as unused product.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: D002.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

- 14.1 USDOT ID Number-----> UN1789
- 14.2 USDOT Shipping Name-----> Hydrochloric Acid
- 14.3 USDOT Hazard Classification-----> 8 (Corrosive Liquid)
 USDOT Label Codes-----> 8
- 14.4 USDOT Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> Yes
 Emergency Response Guide-----> 157
 Reportable Quantity-----> 5000lbs.

Sea Transport (IMDG)

- 14.1 ID Number-----> UN1789
- 14.2 Proper shipping name-----> HYDROCHLORIC ACID
- 14.3 Hazard Classification-----> 8 (Corrosive Liquid)
 Label Codes-----> 8
- 14.4 Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> Yes
 EMS-Number-----> F-A, S-B

Air Transport (IATA)

- 14.1 ID Number-----> UN1789
- 14.2 Proper shipping name-----> Hydrochloric acid
- 14.3 Hazard Classification-----> 8 (Corrosive Liquid)
 Label Codes-----> 8
- 14.4 Package Code-----> II
- 14.5 Environmental hazard-----> None
- 14.6 Special precautions for user-----> Yes

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Listed
Hydrochloric acid CAS-No.7647-01-0: EHSTPQ: 500lbs. Hydrogen Chloride gas.

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed

Hydrochloric acid CAS-No.7647-01-0: (Acid aerosols, vapors, mists and fog)

SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed
Reportable Quantity – 5000lbs; 13,158 HCL Solution lbs.

SECTION 101(14) Reportable Quantity: 5000lbs; 13158 HCL Solution lbs.

Massachusetts Right to Know Components

Hydrochloric acid CAS-No.7647-01-0

Pennsylvania Right to Know Components

Hydrochloric acid CAS-No.7647-01-0

Water CAS-No. 7732-18-5

New Jersey Right to Know Components

Hydrochloric acid CAS-No.7647-01-0

Water CAS-No. 7732-18-5

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA (Toxic Substance Control Act)

Hydrochloric acid CAS-No.7647-01-0 is listed on the TSCA Inventory.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
--------------------------	-----------------------	----------------------------

<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
------------------	--	-----

<u>Canada</u>	Domestic Substances List (DSL)	Yes
---------------	--------------------------------	-----

<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
---------------	-------------------------------------	----

<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
--------------	--	-----

<u>Europe</u>	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION:

Hazard Rating:

4-Extreme

3-High

2-Moderate

1-Slight

0-Insignificant

NFPA RATINGS (SCALE 0-4): Health=3 Fire=0 Reactivity=0
HMIS RATINGS (SCALE 0-4): Health=3 Fire=0 Reactivity=0 PPE=K

Text of hazard statement codes in Section 2 and 3:

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Date of preparation-----> March 3, 2005

Revision Number-----> 1.6

Revision Content-----> General update all sections

Revision Date-----> September 12, 2018

Prepared by-----> T.G. Fenstermaker, Jr.

Acronyms:

ACGIH	-	American Conference of Governmental Industrial Hygienists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American National Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation
EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System

IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System

This information is furnished without warranty, representation, inducement of license of any kind, except that it is accurate to the best of G.J. Chemical's knowledge, or obtained from sources believed by G.J. Chemical Co., Inc. to be accurate, and G.J. Chemical Co., Inc. does not assume any legal responsibility for use or reliance upon same. Users are encouraged to conduct their own tests. Before using any product, read its label. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.