



Safety Data Sheet (MIL-DTL-13528C)

1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:..... MIL-DTL-13528C

CHEMICAL NAME/

CLASS/SYNONYMS: Hydrochloric acid cleaner

PRODUCT NUMBER: MIL-DTL-13528C

UN/NA NUMBER: 1760

CHEMICAL FAMILY: Acid, Inorganic

CAS NUMBER: Not applicable for mixtures.

FORMULA: Mixture

COMPANY:..... **JMN Specialties, Inc.**

1100 Victory Drive – Westwego, Louisiana USA 70094

Phone (504) 341-3749, Fax (504) 341-5868

www.jmnspecialties.com

EMERGENCY PHONE: CALL CHEMTEL: Toll Free US & Canada: (800) 255-3924, Outside
USA +01-813-248-0585.

DATE PREPARED: February 28, 2019

2 – HAZARDS IDENTIFICATION

GHS HAZARD CLASSIFICATION:

Physical Hazards

Flammable Liquids:..... . No hazard statement

Health Hazards

Acute Toxicity (Oral): Category 4 - Harmful if swallowed, in contact with skin, inhaled

Skin Corrosion/Irritation: Category 1B - Causes severe skin burns and eye damage

Serious Eye Damage/Irritation: Category 1 - Causes severe eye damage

Aspiration Hazard:..... . Category 1 - May be fatal if swallowed and enters airways

WARNING LABEL ITEMS INCLUDING PRECAUTIONARY STATEMENTS:

Pictograms:



SIGNAL WORD:..... DANGER!

GHS HAZARD AND PRECAUTIONARY STATEMENTS:

H312 H332: Harmful in contact with skin or if inhaled

P101+102+103: If medical advice is needed, have product container or label at hand. Keep out of the reach of children. Read label before use.

P202+270+280+281: Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.



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P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

P501: Dispose of contents/container: Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

TOTAL VOC's: 0%

3 – COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER
Hydrochloric Acid (Muriatic Acid)	4.5 - 5.0	7647-01-0

4 – FIRST-AID MEASURES

BREATHING (INHALATION): Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Seek medical attention immediately. Qualified medical personnel should consider administering oxygen.

SWALLOWING (INGESTION): Give large amounts of fresh water or milk immediately. Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head below hips to prevent aspiration. Treat symptomatically and supportively. Seek medical attention immediately.

EYES: If liquid solutions containing Muriatic Acid / Hydrochloric Acid get into the eyes, flush eyes immediately with a directed stream of water for at least 30 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. **GET MEDICAL ATTENTION IMMEDIATELY.** Contact lenses should not be worn when working with this chemical.

SKIN (DERMAL): Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

NOTE TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.



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5 – FIRE-FIGHTING MEASURES

- GENERAL FIRE HAZARDS:** Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage (29CFR 1910.156). In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Contact with water may generate heat. Isolate damage area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from danger area if it can be done with minimal risk. Fires involving small amounts of combustibles may be smothered with suitable dry chemicals. Use water on combustibles burning but avoid using water directly on acid as it results in evolution of heat and causes splattering.
- AUTOIGNITION TEMP:** No Data Available
- EXTINGUISHING MEDIA:** Fires involving small amount of combustibles may be smothered with suitable dry chemical, soda ash, lime, sand or CO₂. Use water on combustibles burning in vicinity of this material but use care as water applied directly to this acid result in evolution of heat and causes splattering.
- SPECIAL FIRE FIGHTING PROCEDURES:** Muriatic Acid / Hydrochloric Acid solutions may cause very serious damage upon contact. It burns the cornea and can lead to permanent blindness if splashed onto eyes. Spilled product on ground may be slippery. Accordingly, safety precautions should be strictly observed when handling or cleaning it when spilled as the result of a fire.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:** Containers may explode from internal pressure if confined to fire. Cool with water spray.

6 – ACCIDENTAL RELEASE MEASURES

- SPILL PROCEDURES:** Wear appropriate personal protective equipment before approaching spill site. For small spills, dilute with water to sewer if allowed by local and state regulations. If unable to wash product with water, absorb with inert material (sand or other approved material) and dispose of in accordance with applicable regulations.
- WASTE DISPOSAL:** Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
- RCRA STATUS:** If discarded in its purchased form, this product is considered a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product should be classified as a hazardous waste. (40CFR261.20-24).



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7 – HANDLING and STORAGE

STORAGE:

Keep in a tightly closed container, stored in a cool, dry, ventilated area below 44°C (110°F). Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Drum must not be washed out or used for other purposes.

HANDLING:..... Avoid contact with eyes, skin and clothing. Do not inhale vapors and fumes. Wash thoroughly after handling. Use only with adequate ventilation. Do not take internally. For industrial use only.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

HAZARDOUS INGREDIENT	PEL	TLV-TWA
Hydrochloric Acid (Muriatic Acid)	2 ppm	5 ppm

**EXPOSURE CONTROLS:**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

RESPIRATORY PROTECTION: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998.

Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information. Self-Contained Breathing Apparatus may be required for use in confined or enclosed spaces.

PROTECTIVE CLOTHING:

Eye/face protection: Wear chemical goggles; face shield (if splashing is possible). **Skin protection:** Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron or chemical suit and chemical resistant boots are recommended.



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ADDITIONAL MEASURES: Avoid contact with the skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands before eating, drinking, or using restroom. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

9 – PHYSICAL / CHEMICAL PROPERTIES

BOILING POINT: 226°F(107.78°C)
FREEZING POINT: 0°F (-17°C)
FLASHPOINT: Non-flammable
UPPER FLAME LIMIT (%): NA
LOWER FLAME LIMIT (%): ... NA
VAPOR PRESSURE: 11-115 mm Hg
VAPOR DENSITY (AIR=1):..... > 1 (Air = 1)
SPECIFIC GRAVITY: 1.05
pH: < 1
SOLUBILITY IN WATER:..... 100%
VOLATILITY
INCLUDING WATER: 8.75 pounds per gallon
MOLECULAR WEIGHT: No data available (G/MOLE)
EVAPORATION RATE: < 1
PHYSICAL STATE: Liquid
COLOR: Clear to light Yellow / Amber
ODOR:..... Sharp, Acidic

10 – STABILITY and REACTIVITY

STABILITY: Stable
HAZARDOUS DECOMP.:..... Will not occur
INCOMPATIBILITY: Incompatible with bases. Amines. Acid anhydrides. Metals. Organic compounds. Sulfides.
HAZARDOUS REACTIONS: Muriatic Acid / Hydrochloric Acid solutions may react vigorously, violently or explosively with many organic and inorganic chemicals.

11 – TOXICOLOGICAL INFORMATION

Muriatic Acid / Hydrochloric Acid has produced no genetic changes in standard tests using bacterial cells.

THRESHOLD LIMIT VALUE: 2 ppm
OSHA PEL: 2 ppm
LISTED CARCINOGEN:..... Muriatic Acid (Hydrochloric acid) has produced no genetic changes in standard tests using bacterial cells.

MEDICAL CONDITION

AGGRAVATED: Overexposure to Muriatic Acid / Hydrochloric Acid mist may cause lung damage and aggravate pulmonary conditions. Contact of Muriatic Acid with skin may aggravate diseases such as eczema and contact dermatitis.



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INFORMATION ON ACUTE TOXICOLOGICAL EFFECTS

ORAL

Product:..... Corrosive. May cause serious burns of the mouth or perforation of the esophagus or stomach. May be fatal if swallowed.

DERMAL

Product:..... Corrosive. Splashes on the skin may cause skin burns. Direct contact can be severely irritating to the skin and may result in redness, swelling, burns and possible severe skin damage.

INHALATION

Product:..... Corrosive. May be harmful or fatal if inhaled. May cause severe irritation and burns of the nose, throat and respiratory tract.

REPEATED DOSE TOXICITY

Product:..... Muriatic Acid (Hydrochloric acid) has produced no genetic changes in standard tests using bacterial cells. No data on other effects on Humans.

SKIN CORROSION / IRRITATION

Product:..... The results of single exposure tests indicate that these concentrations of Muriatic Acid (Hydrochloric acid) are slightly toxic after skin application. Following a 24-hour exposure, irreversible eye and skin damage occurred at all tested concentrations of Muriatic Acid (Hydrochloric acid).

SERIOUS EYE DAMAGE / IRRITATION

Product:..... Corrosive. Direct contact with the liquid or exposure to vapors or mists may cause stinging, tearing, redness, swelling, corneal damage and irreversible eye damage. Splashes in the eyes will cause severe burns. Contact lenses should not be worn when working with this chemical.

RESPIRATORY OR SKIN SENSITIZATION

Product:..... Repeated exposure of workers to the mist causes chronic conjunctivitis, tracheobronchitis, stomatitis, and dermatitis.

MUTAGENICITY

IN VITRO

Product:..... No Data Available

IN VIVO

Product:..... No Data Available

Specified Substance(s)

Information as provided by manufacturer

Muriatic Acid / Hydrochloric Acid

No Data Available

CARCINOGENICITY

Product:..... NOT a suspected Human carcinogen.

REPRODUCTIVE TOXICITY

Product:..... Based on the available test, not expected to cause adverse effects on reproduction.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE

Product: **GENERAL:** This product contains acids that are corrosive and can cause severe and painful burns on contact with any part of the body or if taken internally. The mucous membranes of the eyes and the upper respiratory tract are especially susceptible to these irritating effects. **INHALATION:** Inhalation of excessive concentrations of mist or vapor can cause severe irritation of the upper respiratory tract, resulting in coughing, burning of the throat, and a choking sensation. If inhaled deeply, edema of the lungs may occur. **EYES:** Contact with this product, either in gas or in solution, can cause severe irritation and painful burns of the eyes and eyelids. The acid MUST be removed quickly with thorough irrigation with water or there may be prolonged or permanent visual impairment or total loss of sight. **SKIN:** Concentrated solutions are destructive to clothing and on contact with skin, can cause severe burns unless promptly washed off. **INGESTION:** This product, when swallowed, can cause severe burns of the mucous membranes of the mouth, esophagus and stomach.



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SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE

Product:..... The effects of long-term, low-level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposure. This product may aggravate existing eye, skin, and respiratory conditions.

ASPIRATION HAZARD

Product:..... Droplets of the product aspirated into the lungs through ingestion or vomiting may cause chemical pneumonia.

OTHER ADVERSE EFFECTS

Product: **Acute toxicity:** No LD₅₀ data available for the product. However, for constituent(s) HYDROGEN CHLORIDE: Oral LD₅₀ (rabbit): 900 mg/kg. Inhalation LC₅₀ (rat): 3124 ppm/1h. **Chronic effects:** Repeated exposure to low levels of hydrochloric acid may produce discolouration and erosion of teeth and ulceration of the nasal passages.

12 – ECOLOGICAL INFORMATION

ACUTE TOXICITY

FISH

Product:..... Western mosquitofish (*Gambusia affinis*) 282 mg/l, 96 hours.

AQUATIC INVERTEBRATES

Product: *Daphnia magna*, practically non toxic: LL/EL/IL50 > 100 mg/l. (based on similar products / components)

CHRONIC TOXICITY

FISH

Product:..... This material has exhibited slight toxicity to terrestrial organisms.

AQUATIC INVERTEBRATES

Product:..... NOEC/NOEL > 100 mg/l. (based on similar products / components)

TOXICITY TO AQUATIC PLANTS

Product:..... Algae, practically non toxic: LL/EL/IL50 > 100 mg/l. (based on similar products / components)

PERSISTENCE AND DEGRADABILITY

BIODEGRADATION

Product:..... The methods for determining the biological degradability are not applicable to predominately inorganic substances.

BIOLOGICAL OXYGEN DEMAND

Product:..... No data available

CHEMICAL OXYGEN DEMAND

Product:..... No data available

BOD / COD RATIO

Product:..... No data available

BIOACCUMULATIVE POTENTIAL

Product:..... No specific bioaccumulation test data was located in a search of the available scientific literature. It was reported in the literature that acidity of this material may be reduced readily in natural waters.



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MOBILITY IN SOIL

Product:..... Muriatic Acid / Hydrochloric Acid (solution) is soluble in water and has high mobility in soil. During transport through the soil, the product may dissolve some of the soil material; in particular, the carbonate based materials. The acid will be neutralized to some degree, however, significant amounts of acid are expected to remain for transport down towards the ground water table. Upon reaching the ground water table, the acid will continue to move, now in the direction of the ground water flow. Lime addition may be required to rectify low pH resulting from Muriatic Acid / Hydrochloric acid (solution) spillages.

RESULTS OF PBT AND mPvB ASSESSMENT

Product:..... Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Not fulfilling vPvB (very persistent, very bioaccumulative) criteria.

OTHER ADVERSE EFFECTS

Product: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13 –DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA STATUS:..... If discarded in its purchased form, this product is considered a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product should be classified as a hazardous waste. (40CFR261.20-24).

14 – TRANSPORTATION INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.



UN/NA NUMBER: 1760

PROPER SHIPPING NAME:..... Corrosive Liquid, n.o.s., Contains (Hydrochloric Acid)

HAZARD CLASS:..... 8

PACKAGING GROUP :..... II

LETTER:..... C (Corrosive substances)

ENVIRONMENTAL HAZARD: Because of modern treatment methods or method of use of this product, only an insignificant amount of the ingredients reaches the environment. That amount is at such levels as to typically not cause any adverse effects.

REPORTABLE QUANTITY:..... 31,000 pounds (14061 kilograms) based on HCL in mixture



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15 - REGULATIONS

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System. This SDS complies with 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD). **IMPORTANT:** Read this SDS before handling & disposing of this product. Pass this information on to employees, customers, & users of this product.

EPA SRA Title III Chemical Listings:

TSCA STATUS:..... This product is listed on the TSCA inventory. If this product is a blend, all ingredients in the product are listed on the TSCA Inventory List.
Any impurities present in this product are exempt from listing.

SECTION 302:..... Muriatic Acid (CAS# 7647-01-0); 5000 pounds (2267.96 kilograms),
Threshold Planning Quantity (TPQ)

SECTION 304:..... Muriatic Acid (CAS# 7647-01-0); 5000 pounds (2267.96 kilograms),
Threshold Planning Quantity (TPQ)

SECTION 312:..... Yes

SARA SECTION 313: This material contains 4.5 - 5.0% Hydrochloric Acid (CAS# 7647-01-0), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

ACUTE:..... Yes

CHRONIC: Yes

FIRE: No

PRESSURE: No

REACTIVE:..... No

CLEAN WATER ACT: Yes

IMDG – International Marine Dangerous Goods Code

UN1760, Corrosive Liquid, n.o.s., Contains (Hydrochloric Acid), 8, PGII. EmS F-A, S-B. Marine
Pollutant: No. Static Accumulator: No.

IATA

UN1760, Corrosive Liquid, n.o.s., Contains (Hydrochloric Acid), 8, PGII.

DEA Chemical Trafficking Act:.. No



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16 – OTHER INFORMATION

HMIS*

HEALTH	3
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	H

***HMIS®HAZARD INDEX: 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard.**

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS and product label must be considered.

ND = No Data, NA = Not Applicable/Not Available, ≤ = Less than or equal to, ≥ = Greater than or equal to

REVISION STATEMENT: Changes have been made throughout this Safety Data Sheet (SDS). Please read the entire document. Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) by the Company Health and Risk Assessment Unit.

DISCLAIMER:

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, the Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving this Safety Data Sheet (SDS) will make their own determination as to its suitability for their intended purposes prior to use. Since the product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of this product. Such conditions should comply with all Federal and State Regulations concerning the Product. It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. **NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.**

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