JMN SPECIALTIES, INC.

Safety Data Sheet
AC 6400 SAFE ACID

SECTION 1: Identification

1.1 GHS Product identifier

Product name	AC 6400 SAFE ACID
Product number	AC 6400 SAFE ACID
Brand	JMN

1.3 Recommended use of the chemical and restrictions on use

Product is designed to rapidly clean and descale and unplug production equipment, heat exchangers, piping, and any equipment contaminated with sludge, water scale and / or rust not harmed by contact with water. For industrial use only.

1.4 Supplier's details

Name	JMN Specialties, Inc.
Address	1100 Victory Drive Westwego LA 70094 USA
Telephone	504-341-3749
Fax	504-341-5868
email	sales@jmnspecialties.com

1.5 Emergency phone number

US & Canada: (800) 255-3924
Outside USA +01-813-248-0585.

SECTION 2: Hazard identification

General hazard statement
None known

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Acute toxicity, oral, Cat. 4
- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word **Danger**

Hazard statement(s)

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands and clean any skin contact thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER, doctor, or emergency room if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/...
P321	Specific treatment (see first aid instructions on label).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of container and unused contents in accordance with federal, state and local requirements.

2.3 Other hazards which do not result in classification

None known

Statement regarding ingredients of unknown toxicity

None known

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component	Identification	Weight %	Classifications
Urea hydrochloride	CAS no.: 506-89-8 EC no.: 208-059-6	50 - 90 %	CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Skin corrosion/irritation, Cat. 1B. HAZARDS: H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage.

Component	Identification	Weight %	Classifications
1-Octane sulfonic acid sodium salt hydrate	CAS no.: 5324-84-5 EC no.: 226-195-4	3 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.
Organic carboxylic corrosion inhibitor		3 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.
Water/aqua/eau	CAS no.: 7732-18-5	10 - 30 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice — In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

If inhaled — 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.

In case of skin contact — 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.

In case of eye contact — Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention/advice.

If swallowed — 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.

Personal protective equipment for first-aid responders
Wear suitable protective clothing. Wear gloves and eye/face protection.

4.2 Most important symptoms/effects, acute and delayed

Eye Contact: May cause serious damage leading to irritation, discomfort or pain, excess blinking and tear production with marked excess redness, swelling of the conjunctiva and possible corneal injury.
Ingestion: May cause gastrointestinal irritation, nausea, vomiting and diarrhea. Indication of immediate medical attention and special treatment needed.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Breathing Difficulties: Difficulty breathing, especially if it comes on suddenly. Trouble breathing or feeling like you're suffocating. Remove the individual to fresh air and call for medical help immediately, especially if breathing difficulties or respiratory arrest occur. Artificial respiration or oxygen may be needed.
Eye Contact: Immediately rinse eyes with plenty of water for several minutes while holding eyelids open. Remove contact lenses if possible. Then, consult a doctor.
Skin Contact: Immediately rinse the affected area with water. Remove any contaminated clothing. Seek immediate medical help for blistering or open wounds.

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.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Determined by surrounding material. In case of fire, use water fog, dry chemical, CO2, or "alcohol" foam. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

5.2 Specific hazards arising from the chemical

Release of Toxic Gases: During heating or in a fire, urea hydrochloride decomposes, producing toxic and corrosive gases and vapors. These may include:
Hydrogen chloride (HCl)
Oxides of carbon (carbon monoxide and carbon dioxide)
Nitrogen oxides (NOx)
Ammonia
Irritation and Corrosion: The decomposition products, particularly hydrogen chloride, can cause severe irritation to the eyes, skin, and respiratory tract, and may even cause burns.
Container Rupture: Closed containers of the solution exposed to extreme heat can rupture due to pressure buildup. This can release toxic and corrosive materials, escalating the hazard.
Slipping Hazard: Leaked or spilled product can create a slipping hazard, particularly for those involved in fire fighting or cleanup.

5.3 Special protective actions for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

Further information

Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Gloves. Face-shield. Corrosion-proof suit. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit. See "Material-Handling" to select protective clothing. Wear respiratory protection if necessary. Avoid breathing gas, mist, vapors, or spray. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

If safe, stop the source of the leak. Contain the spill by creating a dike around the perimeter using absorbent materials like sand, earth, vermiculite, or absorbent pads.
Absorbent materials: Sand, earth, vermiculite, or diatomaceous earth, Polypropylene-based absorbents (pads, booms), Clay-based absorbents, Spill pillows or pads.

Reference to other sections

See protective measures in Sections 7 and 8. Disposal considerations in Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe 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.

7.2 Conditions for safe storage, including any incompatibilities

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.

Specific end use(s)

AC-6400 is effective in dissolving biomass sludge in shallow landfill gas capture lines and pumps when they get plugged by dissolving the biomass and any water scales holding them together.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Urea hydrochloride (CAS: 506-89-8 EC: 208-059-6)

2. 1-Octane sulfonic acid sodium salt hydrate (CAS: 5324-84-5 EC: 226-195-4)

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection

Tightly fitting safety goggles. Faces shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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.

Body protection

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. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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.

Thermal hazards
Heating urea hydrochloride solution to high temperatures can lead to the release of toxic and combustible gases, including ammonia (NH3), carbon dioxide (CO2), and oxides of nitrogen.

Control banding approach
Corrosion: Store and handle the solution in appropriate containers and areas resistant to corrosive materials.
Skin and eye contact: Wear chemical-resistant gloves, eye protection, and protective clothing when handling the solution.
Inhalation: Ensure adequate ventilation in the work area, such as local exhaust ventilation or using the solution outdoors. If necessary, use respiratory protection.

Environmental exposure controls
Avoid pollution: Take measures to prevent the release of the solution into the environment. Do not contaminate ponds, waterways, or ditches with the chemical.
Report releases: Inform relevant authorities if a product release has caused environmental pollution.
Prevent runoff: Design storage and handling areas to prevent runoff of spilled material.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Clear to Light Amber
Odor	Mild Detergent
Odor threshold	Not Determined
Melting point/freezing point	22°F (-5.5°C)
Boiling point or initial boiling point and boiling range	220°F (104.4°C)
Flammability	Non-Flammable to boiling
Lower and upper explosion limit/flammability limit	Not applicable
Flash point	Water based, Non-flammable material
Explosive properties	Not applicable
Auto-ignition temperature	> 680°F (360°C)
Decomposition temperature	Not applicable for this product
Oxidizing properties	Not applicable for this product
pH	1 - 3
Kinematic viscosity	1.0 to 2.0 Centistokes at 78ºF
Solubility	Complete
Partition coefficient n-octanol/water (log value)	Not applicable for mixtures
Vapor pressure	Approximately 1.0 at ambient temperature

Evaporation rate	Similar to Water
Density and/or relative density	1.17 - 1.19
Relative vapor density	> 1
Particle characteristics	Not applicable for this product

SECTION 10: Stability and reactivity

10.1 Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Release of Toxic Fumes upon Heating: Heating the solution above its decomposition point can release toxic fumes, including hydrogen chloride, chlorine, carbon monoxide, carbon dioxide, and nitrogen oxides.
Reaction with Chlorinated Compounds: Avoid using urea hydrochloride in conjunction with other products, as dangerous gases like chlorine may be given off. Mixing with hypochlorites can form the explosive nitrogen trichloride.

10.4 Conditions to avoid
Avoid contact with strong oxidizing agents, strong acids, and strong alkalis.

10.5 Incompatible materials
Phosphorus pentachloride and sodium or calcium hypochlorite, which can form explosive nitrogen trichloride.
Avoid mixing with ammoniated or chlorinated products, which can generate hazardous gases.

10.6 Hazardous decomposition products
Hydrogen Chloride (HCl) / Hydrochloric acid: A corrosive gas or acid that can be released, particularly in humid air or when heated.
Chlorine: A dangerous gas that may be released, particularly when mixed with incompatible materials.
Carbon monoxide and carbon dioxide: Products of thermal decomposition, particularly when involved in a fire.
Nitrogen oxides (NOx): These can be generated during fire or thermal decomposition.
Ammonia: May be generated by exposure to heat.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Urea Hydrochloride: Information suggests a rat oral LD50 of 1100 mg/kg for Urea Hydrochloride.

Skin corrosion/irritation
May cause skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Not expected to be sensitizing based on tests of components or similar products. Product does not have significant respiratory or skin sensitization potential based on general hazard information

Germ cell mutagenicity
Data has shown negative results for mutagenicity both in vitro and in vivo. It is concluded that the available data are sufficient and indicate that this material has no significant genotoxicity.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. 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. 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. 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
None of the ingredients are listed as chemicals known to cause reproductive toxicity for females or males.

Summary of evaluation of the CMR properties
No components present at or above cut-off concentrations are classified as carcinogenic, mutagenic, or toxic to reproduction. No evidence of CMR effects expected from mixture.

Specific target organ toxicity (STOT) - single exposure
Category 3: Respiratory tract irritation (sore throat, cough).

Specific target organ toxicity (STOT) - repeated exposure
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
May be harmful if swallowed and enters airways

Additional information
Solutions of this product are acidic. Exposure to acidic solutions may result in irritation to any contacted tissue, including possible burns, depending on the concentration, duration, and nature of the exposure.

SECTION 12: Ecological information

Toxicity
FISH: Product: Fish: Expected to have low toxicity: >10 - <100 mg/L (based on similar products / components)
AQUATIC INVERTEBRATES: Product: Daphnia magna: Expected to have low toxicity: >10 - <100 mg/L (based on similar products / components) (based on similar products / components)
CHRONIC TOXICITY FISH Product: NOEC/NOEL: >10 - <100 mg/L (based on similar products / components)
AQUATIC INVERTEBRATES Product: NOEC/NOEL: >10 - <100 mg/L (based on similar products / components)
TOXICITY TO AQUATIC PLANTS Product: Algae: Expected to have low toxicity: >10 - <100 mg/L (based on similar products / components)

Persistence and degradability
Based on the individual components, the mixture is expected to be readily degradable in the environment. The product in water will undergo hydrolysis, accelerated by the acidity, which in turn facilitates biodegradation by microorganisms.

Bioaccumulative potential
Urea hydrochloride itself is generally considered to have low bioaccumulative potential.

Mobility in soil
Expected to partition to water.

Results of PBT and vPvB assessment
Not fulfilling PBT (persistent/bio accumulative/toxic) criteria. Not fulfilling vPvB (very persistent, very bio accumulative) criteria.

Endocrine disrupting properties
This product does not contain any known or suspected endocrine disruptors.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential or global warming potential) are expected from this product.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
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.

Packaging disposal
Once empty, containers can be rinsed and disposed of or recycled.

Waste treatment
Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Sewage disposal
In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.

Other disposal recommendations
Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: Transport information

DOT (US)
UN Number: None
Class: None
Packing Group: None
Proper Shipping Name: Not dangerous goods
Reportable quantity (RQ): None
Marine pollutant: No
Poison inhalation hazard: No

IMDG
UN Number: None
Class: None
Packing Group: None
EMS Number: None
Proper Shipping Name: Class Non Regulated - Possible Shipping Description(s): Non Regulated

IATA
UN Number: None
Class: None
Packing Group: None
Proper Shipping Name: Class Non Regulated - Possible Shipping Description(s): Non Regulated

SECTION 15: Regulatory information

Component	CAS no.	RTK (US) for state:	TSCA (US)[1]	CA Prop. 65[2]	pfas[3]
Urea hydrochloride	506-89-8	-	P	-	-
1-octane sulfonic acid sodium salt hydrate	5324-84-5	-	P	-	-
Water/Aqua/Eau	7732-18-5	-	P	-	-

[1] "P"—Public list, "C"—Confidential list. [2] "c"—cancer, "r"—reproductive harm. [3] "pfas"—Per- and polyfluoroalkyl substances.

Regulation	Applicability
Canadian Domestic Substances List (DSL)	Chemical name: Urea, monohydrochloride CAS number: 506-89-8
Australian Inventory of Industrial Chemicals	Chemical name: urea monohydrochloride CAS number: 506-89-8, CR number: 39226
Canadian Domestic Substances List (DSL)	Chemical name: 1-Octanesulfonic acid, sodium salt CAS number: 5324-84-5
Australian Inventory of Industrial Chemicals	Chemical name: 1-Octanesulfonic acid, sodium salt CAS number: 5324-84-5, CR number: 9055
Canadian Domestic Substances List (DSL)	Chemical name: Water CAS number: 7732-18-5
Australian Inventory of Industrial Chemicals	Chemical name: Water CAS number: 7732-18-5, CR number: 11271

15.2 Chemical Safety Assessment

A Chemical Safety Assessment (CSA) has not been carried out for this mixture. (Under EU REACH, CSAs are performed for substances; this product is a mixture formulated from registered substances.)

Annex: Voluntary Chemical Safety Assessment (summary)
Ingestion: Ingestion of Product may cause transient gastrointestinal irritation, potentially leading to nausea, vomiting, and/or diarrhea.
Eye Contact: Product can cause eye irritation, potentially resulting in stinging, tearing, itching, swelling, and/or redness.
Skin Contact: Prolonged contact with concentrated Product may cause transient irritation and drying to the skin.
Respiratory Issues: Fumes from this Product can irritate the lungs and may trigger asthma symptoms in sensitive individuals.

HMIS Rating

AC 6400 SAFE ACID	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

NFPA Rating

SECTION 16: Other information

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.

16.1 Further information/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.

16.2 Preparation information

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.