Section 1: Identification

MANUFACTURER: PACE Technologies
3601 E. 34th St.
Tucson, AZ 85713

INFORMATION PHONE: 520-882-6598

EMERGENCY PHONE: CHEMTREC 800-424-9300 (US) Day or night

Customer No. 16568

TRADE NAME: McWANE Etchant

CHEMICAL FAMILY: Corrosive Liquids, Acidic, Inorganic, N.O.S (Potassium Metabisulfite, HCl mixture)

HMIS RATING: HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 2

HAZARD RATING:

LEAST: 0 SLIGHT: 1 MODERATE: 2 HIGH: 3 EXTREME: 4

Section 2: Hazard(s) Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	Corrosive to metals (Category 1), H290 Acute toxicity, Oral (Category 4), H302 Skin irritation (Category 1B), H317 Eye irritation (Category 2B), H319 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
PICTOGRAM(s):	
SIGNAL WORD:	Danger
HAZARD STATEMENTS:	**Hazard Statement(s):** H290-May be corrosive to metals H302- Harmful if swallowed H319-Causes eye irritation H335- May cause respiratory irritation
PRECAUTIONARY STATEMENTS:	**Precautionary Statement(s):**

	Preventions: P234- Keep only in original container. P261-Avoid breathing dust/fume/gas/mist/vapors/spray. P264- Wash skin thoroughly after handling. P270- Do not eat, drink or smoke when using this product. P272-Contaminated work clothing should not be allowed out of the workplace P280- Wear protective gloves/protective clothing/eye protection/face protection. **Response:** P301+312- IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell. P302+352- IF ON SKIN: wash with plenty of soap and water. P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321- Specific treatment (see Section 4 SDS). P330- Rinse mouth. **P333+P313-**IF SKIN irritation or rash occurs: Get medical advice/attention. P337-P313-IF eye irritation persists: Get medical advice/attention. P363- Wash contaminated clothing before reuse. P390- Absorb spillage to prevent material damage. **Storage:** P405- Store locked up. P406- Store in corrosive resistant container with a resistant inner liner. **Disposal:** P501- Dispose of contents/container to Federal, State and Local Regulations.

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Potential Health Effects

Inhalation:

Corrosive! Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.

Ingestion:

Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea. Swallowing may be fatal.

Skin Contact:

Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

Eye Contact:
Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.
Chronic Exposure:
No information found.
Aggravation of Pre-existing Conditions:
No information found.

Section 3: Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium Metabisulfite	16731-55-8	0.1 - 1%	Yes
Hydrochloric Acid	7647-01-0	0.5 - 2%	Yes
Water	7732-18-5	97 - 98%	No

Section 4: First-Aid Measures

Inhalation:
Move to fresh air. Get medical attention if symptoms persist.
Ingestion:
Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin Contact:
Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye Contact:
Flush thoroughly with water. If irritation occurs, get medical assistance

Section 5: Fire-Fighting Measures

Fire:
Flush thoroughly with water. If irritation occurs, get medical assistance

Explosion:
Not considered to be an explosion hazard.

Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Sealed containers may rupture when heated.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up:
Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures:
Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions:
Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for safe handling:
Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities:
Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

Section 8: Exposure Controls/ Personal Protection

Ventilation System:
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.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

Respiratory protection:
In case of inadequate ventilation use suitable respirator.

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Hygiene measures:
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

Section 9: Physical and Chemical Properties

Appearance:
Clear, colorless solution.
Odor:
Odor of sulfur dioxide.
Solubility:
Soluble.
Specific Gravity: 1.2
pH: No information found.
% Volatiles by volume @ 21C (70F):
> 99
Boiling Point:
ca. 100C (ca. 212F)
Melting Point:
ca. 0C (ca. 32F)
Vapor Density (Air=1):
Essentially the same as water.
Vapor Pressure (mm Hg):
Essentially the same as water.
Evaporation Rate (BuAc=1):

Section 10: Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:
Sulfur dioxide gas may be liberated from the product.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Strong oxidizing agents.
Conditions to Avoid:
Exposure to air. Heat. Moisture. Contact with incompatible materials.

Section 11: Toxicological Information

For ammonium hydroxide:

oral rat LD50: 689 mg/kg

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Potassium Metabisulfite (16731-55-8)	No	No	3
Hydrochloric Acid (7647-01-0)	No	No	3
Water (7732-18-5)	No	No	None

Section 12: Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

Section 13: Disposal Considerations

Dilute with water and flush to sewer if local ordinances allow, otherwise, 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.

Section 14: Transportation Information

Domestic (Land, D.O.T.)

Proper Shipping Name: Corrosive Liquids, Acidic, Inorganic, N.O.S (Potassium Metabisulfite, HCl mixture)
Hazard Class: 8
UN/NA: UN 3264
Packing Group: III
Label Codes: 8

For less than 5L, product can be shipped as a limited quantity

Section 15: Regulatory Information

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WHMIS Classification: D1B, E

--------\Chemical Inventory Status - Part 1\--------------------------------

Ingredient	TSCA	EC	Japan	Australia
Potassium Metabisulfite (16731-55-8	Yes	Yes	Yes	Yes
Hydrochloric Acid (7647-01-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\--------------------------------

		--Canada--		
Ingredient	Korea	DSL	NDSL	Phil.
Potassium Metabisulfite (16731-55-8)	Yes	Yes	No	Yes
Hydrogen Chloride (7647-01-0)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\--------------

	-SARA 302-		------SARA 313------	
Ingredient	RQ	TPQ	List	Chemical Catg.
Potassium Metabisulfite (16731-55-8)	No	No	No	No
Hydrochloric Acid (7647-01-0)	500	500*	Yes	No
Water (7732-18-5)	No	No	No	No

--------\Federal, State & International Regulations - Part 2\--------------

		-RCRA-	-TSCA-
Ingredient	CERCLA	261.33	8(d)
Potassium Metabisulfite (16731-55-8)	No	No	No
Hydrochloric Acid (7647-01-0)	5000	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2P, 2R
Poison Schedule: Non allocated
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Section 16: Other Information

16.1 NFPA 704

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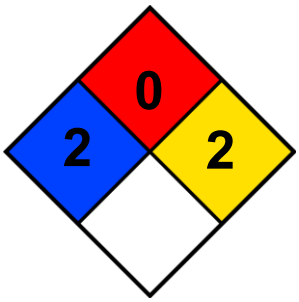

Top, Flammability: 0 – Minimal Hazard

Left, Health Hazard: 3 – Severe Hazard

Right, Reactivity: 2 – Moderate Hazard

Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Product Use:
Laboratory Reagent.

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