MATERIAL SAFETY DATA SHEET

I - PRODUCT IDENTIFICATION

Product: Metal Out

II - TRANSPORTATION DATA

U.S. Department of Transportation - 49 CFR

Not regulated
Emergency Telephone Number: Chemtrec 800-424-9300

III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Chemical or Common Name	Percent	CAS Number	TLV
(1-Hydroxyethylidene) diphosphonic acid	60%	2809-21-4	N/A

* The remainder of the components comprise proprietary information

IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Odor:	mild, vinegar-like
Appearance:	clear, colorless to pale yellow liquid
Density at 25°C:	1.45 g/ml
pH:	1.0
pH (100 ppm in water):	2 – 3
Solubility in Water:	completely miscible with water in all proportions
Vapor Pressure (mm Hg):	not tested
Oil/Water Partition Coefficient:	not tested
Oxidizing/Reducing Properties:	not tested
Boiling Point (@ 760 mm Hg):	> 100°C (> 212°F)
Freezing Point:	not tested

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point:
> 100°C (> 212°F)
Flammable Limits
LEL: N/A
UEL: N/A
Extinguishing Media:

Water fog, carbon dioxide, foam, dry chemical

Special Fire-fighting Procedures:

Self contained breathing apparatus is required. Water spray may be used to cool containers

VI - REACTIVITY DATA

Stability:

( ) Unstable (X) Stable

Incompatibility:

Strong alkali

Hazardous Decomposition or By-Products:

Oxides of phosporous and carbon

Hazardous Polymerization:

( ) May Occur (X) Will Not Occur

VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Spilled Or Released:

IMPORTANT: before responding to a spill or leak of this product, review each section of this MSDS. Follow the recommendations given in the Handling Precautions sections. Check the Fire and Explosion Data section to determine if the use of non-sparking tools is merited. Insure that spilled or leaked product does not come into contact with materials listed as incompatible. If irritating fumes are present, consider evacuation of enclosed areas.

Initially minimize area affected by the spill or leak. Block any potential routes to water systems (e.g., sewers, streams, lakes, etc.). Based on the product's toxicological and chemical properties, and on the size and location of the spill or leak, assess the impact on contaminated environments (e.g., water systems, ground, air equipment, etc.). There are no methods available to completely eliminate any toxicity this product may have on aquatic environments. Minimize adverse effects on these environments. Determine if federal, state, and/or local release notification is required. Recover as much of the pure product as possible into appropriate containers. Later, determine if this recovered product can be used for it intended purpose. Address clean-up of contaminated environments. Spill or leak residuals may have to be collected and disposed of. Clay, soil, or commercially available absorbents may be used to recover any material that can not readily be recovered as pure product. Flushing residual material to an industrial sewer, if present at the site of a spill or leak incident, may be acceptable if authorized approval is obtained. If product and/or spill/leak residuals are flushed to an industrial sewer, insure that they do not come into contact with incompatible materials. Contact the person(s) responsible for the operation of your facility's industrial sewer system prior to intentionally flushing or pumping spills or leaks of this product to the industrial sewer.

Waste Disposal Method:

NOTE: follow federal, state, and local regulations governing the disposal of waste material

Determine if waste containing this product can be handled by available industrial effluent system or other on-site waste management unit. If off-site management is required, contact a company experienced in industrial waste management. This product is not specifically listed in 40 CFR 261 as a Resource Conservation and Recovery Act (RCRA) hazardous waste. However, spill or leak residuals may meet the criteria of a characteristic hazardous waste under this Act. Check the characteristics of the material to be disposed of an/or the physical and reactivity data given in the MSDS for the neat product.

Container Disposal:

Empty containers, as defined by appropriate sections of the RCRA, are not RCRA hazardous wastes. However, insure proper management of any residuals remaining in container

Precautions to Be Taken in Handling and Storage:

Rubber gloves and safety goggles are required

Body-protective clothing and shoes are required

Eye-wash fountains in the work area are strongly recommended

Satisfactory Materials of Construction:

Tested Satisfactory Materials:

Polypropylene, teflon, PVC – rigid, buna-N rubber, viton, PVC – flexible, silicon rubber, tygon tubing R3603, Van leer epoxy liner 136, polyethylene

VIII - HEALTH HAZARD DATA

Primary Route(s) of Entry:

Ingestion:	( )
Inhalation:	(X)
Skin Contact:	(X)
Eye Contact:	(X)

Effects of Acute Exposure to Material:

Ingestion:	ingestion is not expected to be a primary route of exposure
Inhalation:	may cause irritation or corrosion of mucous membranes and the lungs. Exposed individuals should be monitored for respiratory distress, bronchitis or pneumonia
Skin Contact:	irritant. Irritation will depend on solution, length of exposure and first aid measures
Eye Contact:	corrosive. Mild to severe (corrosion) irritation depending on the length of exposure, solution concentration and first aid measures

Effects of Chronic Exposure to Material:

The effects from chronic exposure to this product have not been fully evaluated

Emergency and First Aid Procedures:

Ingestion:	DO NOT INDUCE VOMITING. Rinse with copious amounts of water or milk, first. Irrigate the esophagus and dilute

	stomach contents by slowly giving one (1) to two (2) glasses of water or milk. Avoid giving alcohol or alcohol related products. In cases where the individual is semi-comatose, comatose or convulsing, DO NOT GIVE FLUIDS BY MOUTH. In case of intentional of the product seek medical assistance immediately; take individual to nearest medical facility.
Inhalation:	if exposure by inhalation is suspected, immediately move exposed individual to fresh air. If individual experiences nausea, headache, dizziness, has difficulty in breathing or is cyanotic, seek a health care professional immediately
Skin Contact:	wash exposed area with plenty of soap and water. Repeat washing. Remove contaminated clothing and wash thoroughly before reuse. If irritation persists consult a health care professional
Eye Contact:	flush immediately with copious amounts of tap water or normal saline (minimum 15 minutes). Take exposed individual to a health care professional, preferably an ophthalmologist, for further evaluation
Note to physician:	no specific antidote is known. Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptoms

IX – REGULATORY INFORMATION

THE FOLLOWING Regulations are known to apply to the use and disposal of this product. Additional federal, state, and local regulations may also be applicable

SARA:

SARA 302 Extremely Hazardous Substances List:

No components of this product are listed

SARA 312 Hazard Category:

Immediate (Acute) Health Hazard

SARA 313 Toxic Chemicals List:

No Section 313 listed substances are present above de minimus levels.

CERCLA:

No components of this product are listed

RCRA:

No components of this product are listed

CWA:

No components of this product are listed

FDA:

This product is approved under the following FDA (21 CFR) sections:

21 CFR 173.310

TSCA:

All components are listed on TSCA Inventory

FIFRA:
This product is not a registered pesticide
HMIS/NPCA Ratings:
Health – 2; Flammability – 1; Reactivity – 1
NFPA Ratings:
Health – 3; Flammability – 1; Reactivity – 1

X - TOXICOLOGICAL INFORMATION

Acute Effects:
Oral LD50: 2,400.0 mg/kg
Dermal LD50: > 7,940.0 mg/kg
Irritant Effects:
Corrosive to eyes. Irritating to skin
Sensitization Effects:
Not tested but none expected
Carcinogenic Potential:
Not listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic
Target Organ Effects:
Skin and eyes (burns and corrosion) are expected to be the target organs for this product
Other Health Effects:
None known

XI - ADDITIONAL INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the REGULATORY INFORMATION listed in Section X of this document should NOT be considered all-inclusive or authoritative. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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