

MATERIAL SAFETY DATA SHEETS

MSDS NUMBER: MC S-2291
 PART NUMBER: MC S-2291
 PRODUCT NUMBER: MC S-2291 Scale Inhibitor
 CAS NUMBER: Blend
 CHEMICAL NAME: Phosphonic Acid Solution

SECTION I

MANUFACTURER: / VENDOR: Multi-Chem Group, LLC
 ADDRESS: P. O. Box 1377
 Sonora, Texas 76950
 EMERGENCY TELEPHONE NUMBER: (800) 535-5053
 INFORMATION TELEPHONE NUMBER: (325) 387-2585
 DATE PREPARED: 03/23/02

NFPA RATINGS:

HEALTH: 3
 FIRE: 2
 REACTIVITY: 0
 PERSONAL PROTECTION:

SECTION II - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	% Wt.	TLV-PEL
6419-19-8	Phosphonic Acid	Proprietary	NI
67-56-1	Methanol	< 15%	200 ppm

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.064
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Soluble

APPEARANCE AND ODOR: Pale Yellow, Clear Liquid with Alcohol Odor

OTHER INFORMATION:

Viscosity Units = NI pH = <2.0
 Pour Point = -10°F Dry Point = NI
 Density (Lb./Gal.) = 8.87

DANGER

Physical Hazards: -

Corrosive Liquid

Generic Name: - Phosphonic Scale Inhibitor

UN/NA Number: - UN 1760

DOT Response Number: - 153

DOT Proper Shipping Name: - Corrosive Liquids, N.O.S., 8, UN 1760 PG III
 (Phosphonic Acid)

DOT Hazard Class:- 8

DOT Packing Group:- III

DOT/CERCLA RQ: - 25000 Pounds

This product contains chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 106° F

FLAMMABLE LIMITS: LEL: ND UEL: ND

EXTINGUISHING MEDIA: Dry Chemical CO2 Water Spray Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting / flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Evaporation of all water content.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OF BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or components of nitrogen and phosphorous. May emit phosphines if evaporated to dryness.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

No appropriate human or animal health effects data are known to exist.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material may cause a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

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SECTION VI - HEALTH HAZARD DATA (Continued)

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.

Corrosive to Skin.

Severe Ingestion Hazard.

No data on Inhalation Found.

No data on Skin Absorption Found

SIGNS & SYMPTOMS OF EXPOSURE:

Skin Contact:

Irritation or redness of the skin may develop after exposure.

Eye Contact:

Severe eye irritation may develop on exposure.

Ingestion:

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result.

MEDICAL CONDITION GENERALLY AGGRAVATED BY EXPOSURE:

Any preexisting dermatitis or other skin disorders.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed.

Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often.

Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergen reactions conventionally after decontamination. Do not induce vomiting.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). **SMALL SPILL:-** Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

MSDS NUMBER: MC S-2291

PRODUCT NAME: MC S-2291 Scale Inhibitor

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE continued

LARGE SPILL: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks.)
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly.

Used licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials.

Use non-sparking tools and explosion proof equipment.

Ground line, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark.

Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition.

Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash thoroughly after handling.

Do not get it in eyes, on skin or on clothing.

Do not breathe dust, vapor, mist or gas.

Keep container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

MSDS NUMBER: MC S-2291

PRODUCT NAME: MC S-2291 Scale Inhibitor

SECTION VIII - CONTROL MEASURES continued

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities.
Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Promptly remove clothing and wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness.
Never siphon by mouth

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in the MSDS was obtained from sources which we believe are reliable. However, the information is provided without warranty, express or implied, regarding its correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of, or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Communication Standard (29 CFR 1200).