

SECTION 1 - IDENTIFICATION

Product Identifier: Micro Flow 150
Product Use: Mineral Antiscalant
Common Names: HEDP

 Meras Engineering, Inc.
 601 Van Ness Ave. E3-725
 San Francisco, CA 94102
 USA
 (415)240-4918
 orders@meras.com

24 Hr. Emergency #: ChemTrec (800) 424-9300

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:
 Skin Corrosion/Irritation – Category 1B
 Serious Eye Damage – Category 1
 Target Organ Systematic Toxicity: Single Exposure – Category 3



Signal Word: DANGER

Hazard Statement(s):
 H314: Causes severe skin burns and eye damage.
 H335: May cause respiratory irritation.
 H302: Harmful if swallowed.

Precautionary Statements:
Prevention-

P103: Read label before use.
 P262: Do not get in eyes, on skin, or on clothing.
 P264: Wash skin thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response-

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
 P321: Specific treatment (see supplementary first aid instructions on this label).
 P333+313: If skin irritation or a rash occurs: Get medical advice/attention.
 P362: Take off contaminated clothing and wash before reuse.

Storage-

P233: Keep container tightly closed.
 P405: Store locked up.

Disposal-

P501: Dispose of contents/container to an approved waste disposal plant.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS No.	Concentration (%)
Hydroxyethylidene Diphosphonic Acid (HEDP)	2809-21-4	15%

SECTION 4 - FIRST-AID MEASURES

Inhalation:	Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Take off contaminated clothing and shoes immediately. Promptly flush skin with water several minutes to ensure all chemical is removed. If reddening and/or a rash develops and/or persists, obtain medical attention.
Eye Contact:	Flush with large amounts of water for several minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. Seek immediate medical attention.
Ingestion:	Drink copious amounts of water and provide fresh air. Seek immediate medical attention.
Most Important Symptoms And Effects, Both Acute And Delayed:	The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11.
Indication Of Any Immediate Medical Attention And Special Treatment Needed:	No data available.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Equipment:	Water Spray Carbon Dioxide
Special Hazards Arising From The Substance Or Mixture:	During heating, or in case of fire, poisonous gases are produced.
Special Protective Equipment And Precautions For Firefighters:	Firefighters should wear air-purifying respirators. Use caution. See Section 7 for more information on safe handling. See Section 8 for more information on personal protection equipment. See Section 13 for disposal information.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, And Emergency Procedures:	Use personal protective equipment including vapor respirator. Keep from contacting skin or eyes. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Stay upwind of spilled material.
Environmental Precautions:	Prevent further release (leakage/spillage) if safe to do so. Do not allow product to enter drains. Do not allow to drain to environment. Dilute with plenty of water.
Methods And Materials For Containments And Cleaning Up:	Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust). Absorb with pillows, pads, snakes, etc. Place contaminated material into suitable, closed containers for disposal. Dispose of contaminated material according to Section 13. After spillage has been collected, area may be flushed with water or wet-brushed. Ensure adequate ventilation.
Reference To Other Sections:	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for information on proper disposal.

SECTION 7 - HANDLING AND STORAGE

- Handling Precautions:** Avoid breathing vapors or mist.
 Avoid contact with eyes, skin, or clothing.
 Use approved containers only.
 Keep containers closed when not in use.
 Do not expose containers to open flame, excessive heat, or direct sunlight.
 Do not puncture or drop containers.
 Handle with care and avoid spillage on the floor.
 Keep material out of reach of children.
 Keep material away from incompatible materials.
 Wash thoroughly after handling.
 Ensure adequate ventilation.
- Storage Requirements:** Keep container tightly closed.
 Avoid inhalation of vapors or mist upon opening container.
 Store in a well-ventilated place.
 Do not store in direct sunlight.
- Incompatible Materials:** Store away from strong bases.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Component(s)	CAS No.	OSHA			NIOSH		ACGIH	
		<u>PEL</u>	<u>Ceiling</u>	<u>STEL</u>	<u>REL</u>	<u>Ceiling</u>	<u>TLV</u>	<u>Ceiling</u>
HEDP	2809-21-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Engineering Controls:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).
 Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas.
 Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equipment:

All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Type of protective equipment should be selected based on concentration amount and conditions of use of this material. Full-face vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds. Respiratory protection must comply with 29 CFR 1910.134.

Eye/Face-

- Goggles (chemical-resistant)

Skin/Body-

- Gloves (PVC, neoprene, or nitrile)
- Apron (chemical-resistant)

Respiratory-

- N/A

General Hygiene Considerations-

- Handle in accordance with good industrial hygiene and safety practice.
- Keep away from foodstuffs, beverages, and feed.
- Wash face, hands, and any exposed skin thoroughly after handling.
- Appropriately dispose of contaminated clothing; wash before re-use, if applicable.
- Avoid contact with eyes, skin, and clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid
Color: Clear
Odor: Slight Detergent
pH: <2
Melting/Freezing Point:

Vapor Pressure (Mm Hg):
Vapor Density:
Relative Density: 9.1 lbs/gal
Specific Gravity: 1.09

Initial Boiling Point and Boiling Range:
Flash Point: N/A
Evaporation Rate:
Flammability (Solid, Gas):
Upper/Lower Flammability or Explosive Limits:

Solubility in Water: 100%
Partition Coefficient (N-Octanol/Water):
Auto Ignition Temperature:
Decomposition Temperature:
Viscosity:
Volatiles (% By Weight):
Volatile Organic Compounds (VOC's):

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Not reactive under normal and ambient conditions
Chemical Stability: Stable under normal and ambient conditions.
Possibility of Hazardous Reactions: No possibility of hazardous reactions known.
Conditions to Avoid: Incompatibilities, flames, ignition sources.
Incompatible Materials: Strong bases and strong alkali.
Hazardous Decomposition Products: None known.

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Entry: Eyes, skin, ingestion, dermal absorption.

Acute Toxicity:
 Oral Toxicity (LD₅₀)- No data available.
 Dermal Toxicity (LD₅₀)- No data available.
 Inhalation Toxicity (LD₅₀)- No data available.

Primary Eye Irritation: No data available.
Primary Skin Irritation: No data available.

Sensitization: No data available.

Carcinogenicity:
 IARC- No data available.
 ACGIH- No component of this product present at levels >=0.1% is identified as a carcinogen or potential carcinogen.
 NTP- No component of this product present at levels >=0.1% is identified as a carcinogen or potential carcinogen.
 OSHA- No component of this product present at levels >= 0.1% is identified as a carcinogen or potential carcinogen.

Reproductive Toxicity: No data available.
Specific Target Organ Toxicity-Single Exposure: No data available.
Specific Target Organ Toxicity-Repeated Exposure: No data available.
Aspiration Hazard: No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:
 Toxicity to Fish- LD₅₀- No data available.
 LD₅₀- No data available.
 Toxicity to Daphnia and Other Aquatic Invertebrates- EC₅₀- No data available.

Persistence and Degradability: No data available.
Bioaccumulation Potential: No data available.
Mobility in Soil: No data available.

Results of PBT and vPvB Assessment: Not conducted.

Other Adverse Effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May be harmful to aquatic life.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recommendation: Hazardous wastes shall be managed responsibly. Contact a licensed professional waste disposal service to dispose of this material. Do not allow product to reach the sewage system. Disposal must comply will local, state, and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of an NPDES permit.

Cleansing agent: Water should be used as a cleansing agent to rinse containers and/or soiled PPE.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT

UN Number: 3265
 Class: 8
 Packing Group: II
 Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Hydroxyethylidene Diphosphonic Acid, Phosphonic Acid)
 Marine Pollutant: No



IMDG

UN Number: 3265
 Class: 8
 Packing Group: II
 EMS-No.: F-A, S-B
 Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Hydroxyethylidene Diphosphonic Acid, Phosphonic Acid)



IATA

UN Number: 3265
 Class: 8
 Packing Group: II
 Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Hydroxyethylidene Diphosphonic Acid, Phosphonic Acid)



SECTION 15 - REGULATORY INFORMATION

EPA Registration No.:

Cal DPR Registration No.:

<u>Listed Hazardous Chemical</u>	<u>CAS No.</u>	<u>EPCRA EHS</u>		<u>CERCLA HS</u>		<u>CAA 112r</u>	<u>EPCRA 313</u>	<u>Prop 65 Listed</u>
		<u>RQ (lbs)</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>	<u>TQ (lbs)</u>			
HEDP	2809-21-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Legend

EPCRA- Emergency Planning and Community Right-to-Know Act
 CERCLA- Comprehensive Environmental Response, Compensation and Liability Act
 CAA- Clean Air Act
 RQ- Release Quantity
 TPQ- Threshold Planning Quantity
 EPA- Environmental Protection Agency
 DPR- Department of Pesticide Registration

SECTION 16 - OTHER INFORMATION

NFPA



NFPA Rating Explanation Guide					
RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	COR	Corrosive
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	OX	Oxidizing
0	No hazard	Will not burn	Stable	☢	Radioactive
				☞	Reacts violently or explosively with water
				☞OX	Reacts violently or explosively with water and oxidizing

HMIS III

3 HEALTH

0 FLAMMABILITY

0 REACTIVITY

D PERSONAL PROTECTION

PERSONAL PROTECTION INDEX					
A			G	+ +	
B	+		H	+ + +	
C	+ +		I	+ +	
D	+ +		J	+ + +	
E	+ +		K	+ +	
F	+ + +		X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions	
A		n		o	
	Safety Glasses		Splash Goggles		Face Shield & Eye Protection
				p	
					Gloves
				q	
					Boots
				r	
					Synthetic Apron
				s	
					Full Suit
t		u		w	
	Dust Respirator		Vapor Respirator		Dust & Vapor Respirator
				y	
					Full Face Respirator
				z	
					Airline Hood or Mask
					Additional Information

No warranty guarantee or representation is made to the accuracy, reliability, or completeness of this SDS. The information provided in this SDS is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. It is the user's responsibility to satisfy any inquiries as to the suitability of such information for his/her own particular use.