SECTION 1 - IDENTIFICATION

Product Identifier: Meras 4211

Product Use: Water Treatment Cleaner

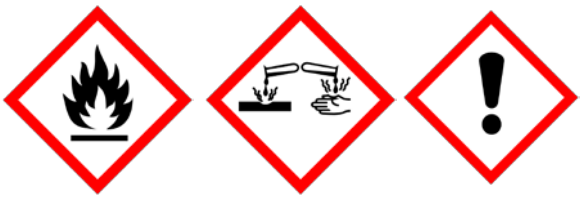
Common Names:

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:
Flammable Liquids – Category 3
Skin Irritation - Category 2
Eye Damage – Category 1



Signal Word: DANGER

Hazard Statement(s):
H226: Flammable liquid and vapor.
H315: Causes skin irritation.
H318: Causes serious eye damage.

Precautionary Statements:

Prevention-
P210: Keep away from heat/sparks/open flames/ hot surfaces. – No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response-
P303+352: IF ON SKIN (or hair): Wash with plenty of soap and water.
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P332+313: If skin irritation occurs: Get medical advice/attention.

Storage-
P403+233: Store in a well ventilated place. 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 (%)
Confidential business information has been removed without affecting the overall safety information on the safety data sheet.		

SECTION 4 - FIRST-AID MEASURES

Inhalation: If this product is inhaled, move the exposed person to fresh air promptly. Seek medical attention if symptoms persist. Give artificial respiration if the exposed person is not breathing.

Skin Contact: If this product contacts the skin, immediately flush the affected area with plenty of clean running water for at least fifteen (15) minutes. If the product penetrates the clothing, promptly remove the contaminated clothing or shoes, and flush the affected area as described. Seek medical attention if irritation persists.

Eye Contact: If this product contacts the eyes, immediately flush eyes with plenty of clean running water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Remove contact lenses if worn. Seek medical attention if irritation persists.

Ingestion: If this product is ingested, seek medical attention immediately. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Most Important Symptoms And Effects, Both Acute And Delayed: No data available.

Indication Of Any Immediate Medical Attention And Special Treatment Needed: No data available.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Equipment:
Dry Chemical
Carbon Dioxide
Water Fog
Foam

Special Hazards Arising From The Substance Or Mixture: Combustion may lead to the release of carbon dioxide, carbon monoxide. Smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapors (of N-propoxypropanol) are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Irritating vapors may be emitted during a fire.

Special Protective Equipment And Precautions For Firefighters:
Avoid breathing fire vapor.
Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do NOT use direct water stream. Firefighters should wear an approved self-contained breathing apparatus (SCBA).
Use water spray to cool unopened containers.
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:
Wear appropriate PPE.
Keep from contacting skin or eyes.
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.

Methods And Materials For Containments And Cleaning Up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust) or pillows, pads, and absorbing berms.
Dispose of contaminated material according to Section 13. Ensure adequate ventilation.
Following product recovery, flush area with water.

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 contact with eyes, skin, or clothing.
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.
Store in a well-ventilated place.
Avoid storage in direct sunlight.
Recommended shelf life if 2 years.

Incompatible Materials: Avoid contact with strong oxidizing agents, strong acids and strong caustics.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Component(s)	CAS No.	OSHA			NIOSH		ACGIH	
		PEL	*Ceiling*	*STEL*	*REL*	*Ceiling*	*TLV*	*Ceiling*
Sodium Hydroxide	1310-73-2	2mg/m^3	2mg/m^3	N/A	2mg/m3	2mg/m^3	2mg/m^3	2mg/m^3
Ethanol	64-17-5	1,000 ppm			1,000 ppm		1,000 ppm	

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-
- Safety glasses or goggles (chemical-resistant).

Skin/Body-
- Gloves (PVC, neoprene, or nitrile).

Respiratory-
- NIOSH approved organic vapor respirator.

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: Sweet alcohol
Vapor Pressure (Mm Hg): No data available.
Vapor Density: No data available.
Relative Density: 8.34 lbs/gal

pH: 8.1
Melting/Freezing Point: No data available.
Initial Boiling Point and Boiling Range: 212°F
Flash Point: 115°F
Evaporation Rate: No data available.
Flammability (Solid, Gas): No data available.
Upper/Lower Flammability or Explosive Limits: No data available.

Specific Gravity: 1
Solubility in Water: No data available.
Partition Coefficient (N-Octanol/Water): No data available.
Auto Ignition Temperature: No data available.
Decomposition Temperature: No data available.
Viscosity: No data available.
Volatiles (% By Weight): No data available.
Volatile Organic Compounds (VOC's): No data available.

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 data available.
Conditions to Avoid: Heat, flames, ignition sources, and incompatibles.
Incompatible Materials: Avoid contact with strong oxidizing agents, strong acids and strong caustics.
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide. Smoke may contain the original material in addition to unidentified toxic and/or irritating compounds.

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Entry: Eyes, inhalation, dermal, ingestion.

Acute Toxicity:
Oral Toxicity (LD_{50})- >1,179 mg/kg (Rat)
Dermal Toxicity (LD_{50})- >676 mg/kg (Rabbit)

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

Sensitization: No data available.

Carcinogenicity:
IARC- Ethanol: Group 1, Carcinogen to humans.
ACGIH- No ingredients listed.
NTP- No ingredients listed.
OSHA- No ingredients listed.

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 (LC_{50})- Rainbow Trout (Onchorhynchus mykiss): >2,045 ppm (96 h)

Toxicity to Daphnia and Other Aquatic Invertebrates (EC_{50})- Water Flea (daphnia magna): >6,840 ppm (48 h)

Toxicity to Aquatic Plants (EC_{50})- >2,785 ppm (72 h)

Persistence and Degradability: No data available.

Bioaccumulation Potential: No data available.

Mobility in Soil: Completely soluble in water.

Results of PBT and vPvB Assessment: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

Other Adverse Effects: No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recommendation: Hazardous wastes shall be managed responsibly.
Contact a licensed professional waste disposal service to dispose of this material.
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 empty containers and/or soiled PPE.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT
UN Number: 1993
Class: 3
Packing Group: III
Proper Shipping Name: FLAMMABLE LIQUID, (Ethanol & Propoxypropanol)
Marine Pollutant: No

IMDG
UN Number: 1993
Class: 3
Packing Group: III
EMS-No.: F-E, S-E
Proper Shipping Name: FLAMMABLE LIQUID, (Ethanol & Propoxypropanol)

IATA
UN Number: 1993
Class: 3
Packing Group: III
Proper Shipping Name: FLAMMABLE LIQUID, (Ethanol & Propoxypropanol)

Limited Quantity: 5L
Excepted Quantity: (E1) Inner Package: 30g/30mL; Outer Package: 1kg/1L

SECTION 15 - REGULATORY INFORMATION

EPA Registration No.:
Cal DPR Registration No.:

Listed Hazardous Chemical	CAS No.	EPCRA EHS RQ (lbs)	EPCRA EHS TPQ (lbs)	CERCLA HS RQ (lbs)	CAA 112r TQ (lbs)	EPCRA 313	Prop 65 Listed

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
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock
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
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable, High temperatures make unstable
0	No hazard	Will not burn	Stable

RATING SYMBOL	SPECIAL HAZARD
ALK	Alkaline
ACID	Acidic
COR	Corrosive
OX	Oxidizing
	Radioactive
W	Reacts violently or explosively with water
W OX	Reacts violently or explosively with water and oxidizing

HMIS III

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 Safety Glasses	n Splash Goggles	o Face Shield & Eye Protection	p Gloves	q Boots	r Synthetic Apron	s Full Suit
t Dust Respirator	u Vapor Respirator	w Dust & Vapor Respirator	y Full Face Respirator	z Airline Hood or Mask	Additional Information	

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