

MATERIAL SAFETY DATA SHEET

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ORP ISA & MLC Light's Solution

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MYRON L COMPANY 2450 IMPALA DRIVE, CARLSBAD, CA 92010

INFORMATION PHONE #: (760) 438-2021, contact either Jerry Adams or Gary Robinson

BUSINESS HOURS: Monday through Friday 7:00 a.m.-3:30 p.m. (Pacific Time)

This and additional Myron L Material Safety Data Sheets (MSDS) are available on the World Wide Web at: <http://www.myronl.com>

CHEMICAL NAME: Sulfuric Acid and Ferric/Ferrous salts solution

CHEMICAL FAMILY: Inorganic Acid Solution

TRADE NAME & SYNONYMS: Sensor Conditioner-300mV vs. Ag/AgCl
MLC Light's Solution, 470 mV ORP Calibration Solution

CAS #: Sulfuric Acid #7664-93-9
Ferrous Ammonium Sulfate, 6-Hydrate #7783-85-9

CHEMICAL FORMULA:

$H_2SO_4/Fe(NH_4)_2(SO_4)_2 \cdot 6H_2O/FeNH_4(SO_4)_2 \cdot 12H_2O$

Ferric Ammonium Sulfate, 12-Hydrate: #10138-04-2
(Anhydrous) #7783-83-7
(Dodecahydrate)

CATALOG NUMBERS: Ionic Strength Adjuster, ORP ISA Sensor
Conditioner, MLC Light's Solution, ORP CAL KIT, ORP470

Water #7732-18-5

SECTION 2 PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT, 760 mm Hg (°C)	100°C	SPECIFIC GRAVITY	1.0+
FREEZE POINT (°C)	0°C	SOLUBILITY IN H ₂ O, % BY WT. @ 20°C	>10%
VAPOR PRESSURE @ 20°C	N/A	APPEARANCE AND ODOR	CLEAR SOLUTION
VAPOR DENSITY	N/A		
PERCENT VOLATILES BY VOLUME	N/A	EVAPORATION RATE	N/A

SECTION 3 FIRE FIGHTING MEASURES

FLASH POINT (TEST METHOD)	N/A	FLAMMABLE LIMITS	N/A	LeI	N/A	Uel	N/A
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EXTINGUISHING MEDIA Dry chemical or carbon dioxide. Do not use water.

SPECIAL HAZARDS & PROCEDURES Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

UNUSUAL FIRE & EXPLOSION HAZARDS Reacts with most metals to produce hydrogen gas, which can form an explosive mixture with air. A violent exothermic reaction occurs with water generating extreme heat.

SECTION 4 STABILITY AND REACTIVITY

STABILITY: Product is stable under normal conditions of use and storage.	CONDITIONS TO AVOID Heat; Note: May emit toxic fumes and gases when heated to decomposition.
REACTIVITY: Incompatibles, most metals, organic materials, strong reducing agents, combustible materials, strong bases, strong oxidizing agents.	MATERIALS TO AVOID X WATER X ACIDS X BASES OTHER SPECIFY Ammonia, oxides of sulfur, and oxides of nitrogen.

SECTION 5 ACCIDENTAL RELEASE MEASURES

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

Neutralize spill and/or washings with soda ash, sodium bicarbonate, or lime. Do not use water. Containerize for later disposal. Calcium carbonate or Calcium hydroxide are suggested as low natural acid neutralizers.

SECTION 6 HAZARDS IDENTIFICATION

THRESHOLD LIMIT VALUE:	1 mg/m ³ (ppm)
EFFECTS OF OVEREXPOSURE:	Inhalation may cause severe irritation of the respiratory system. Liquid may cause severe burns to skin and eyes. Ingestion is harmful and may be fatal.
ROUTES OF ENTRY:	Inhalation, ingestion, eye contact and skin contact.
CARCINOGENICITY:	Material is not listed (NTP, IARC, Z list, OSHA) as a cancer causing agent.

SECTION 7 FIRST AID MEASURES

FIRST AID PROCEDURES:

EYE CONTACT: Immediately flush eyes with water for at least 15 minutes. Seek medical attention.
SKIN CONTACT: Wash thoroughly with plenty of water. Seek medical attention as needed.
INGESTION: Do not induce vomiting. If conscious, give water, milk or milk of magnesia. Seek medical attention.

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SECTION 8 PERSONAL PROTECTION

RESPIRATORY PROTECTION: Self-contained breathing apparatus is advised if TLV is exceeded.
VENTILATION: Use general or local exhaust ventilation to meet TLV requirements.
EYE PROTECTION: Recommended safety glasses and face shield.
PROTECTIVE GLOVES: Recommended general purpose rubber gloves.
PROTECTIVE CLOTHING: Recommended lab coat or safety apron.

SECTION 9 HANDLING AND STORAGE

HANDLING: Normal use does not generate a hazardous situation when handled in accordance with good industrial hygiene and safety practices.
STORAGE: Keep container tightly closed. Store in corrosion-proof area. Keep containers out of sun and away from heat.

SECTION 10 TOXICOLOGICAL INFORMATION

TOXICITY DATA: LD50 (oral-Rat) (mg/kg) -2140; details of toxic effects not reported other than lethal dose.
TOXICOLOGICAL FINDING: Produces toxic sulfur dioxide gases. Organs targeted are respiratory system, eyes, skin, and teeth. Chronic overexposure may result in lung damage.

SECTION 11 DISPOSAL CONSIDERATIONS

EPA WASTE NO. AND DISPOSAL TREATMENT: D002, D003 (corrosive, reactive waste)
NOTE: Neutralize with soda ash or sodium bicarbonate. Containerize the neutralized waste.
Always contact a permitted waste disposer (TSD) to assure compliance and accordance with federal, state, and local regulations.

SECTION 12 TRANSPORT INFORMATION

DOT Shipping Name.....corrosive liquid, Sulfuric Acid
DOT Number.....UN1830 Class:8 corrosive material (liquid)

SECTION 13 REGULATORY INFORMATION

TSCA INVENTORY: THE CAS NUMBER OF THIS PRODUCT IS LISTED ON THE TSCA INVENTORY.

COMPONENT N/A
SARA EHS (302) N/A
SARA EHS TOQ (LBS) N/A
CERCLA RQ (LBS) N/A
OSHA FLOOR LISTN/A
SARA 313N/A
DeMinimis for SARA 313 (%) N/A

SECTION 14 OTHER INFORMATION

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us; however, we make no warranty of merchantability, or fitness for any particular use, or any other warranty, expressed or implied, with respect to this information, and we assume no liability resulting from the use of this information. Users should make their own investigations to determine the suitability of the information for their particular needs and purposes.

NFPA Hazard Ratings
Health: 3 severe (poison)
Flammability: 0
Reactivity: 3 severe
(water reactive)
Special Hazards: N/A

MSDS APPROVED BY: Jerry D. Adams