



MATERIAL SAFETY DATA SHEET

Revision Date: 02/09/2013
Date Issued: 02/09/2013

REACTOR R-360

I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

TRADE NAME: REACTOR R-360
PRODUCT CLASS: MODIFIED POLIAMIDE
CHEMICAL FAMILY: SOLUTION OF POLIAMIDE
HEALTH: DANGEROUS

INFORMATION ON

MANUFACTURER/SUPPLIER: EL NERVION S.A DE C.V.
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II. COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	COMPONENTS	CAS NUMBER	CONCENTRATION [%]
01	EMULSION MODIFIED POLIAMIDE	4067-16-7	85.0
02	DISTILLED WATER	9430-46-1	14.2
03	WIDE RANGE BIOCIDA	26172-55-4	0.1

III. HAZARDS IDENTIFICATION

Emergency Overview

Physical Appearance

Form: Viscous liquid
Colour: Amber
Odour: Ammoniacal
Water solubility: Partially soluble
PH: 9.4

EXPOSURE EFFECTS: Flammable. Could be released gases / toxic fumes during combustion and / or thermal decomposition. A closed container can explode with extreme heat. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Vapors or mist may pose a risk of fire and explosion if exposed to high heat or ignition. Vapors can travel to areas outside the workplace before lighting / back to vapor source. Ground containers and equipment before making the transfer to avoid static sparks. Has been associated with prolonged and repeated occupational overexposure to solvents with brain damage and nervous system permanently. Intentional misuse by deliberately concentrating or inhaling solvents may be harmful or fatal. Cause respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory



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sensitizer. The damage to the lungs and respiratory sensitization may be permanent. Cause skin irritation. May cause allergic skin reaction. Skin sensitizer.

Potential health effects

OVER-EXPOSURE (prolonged or repeated use): CAN AGGRAVATE OR ACCENTUATE ANY OF THESE EFFECTS.

SKIN CONTACT: Irritating. Harmful in contact with skin. Causes irritation to the skin.

INHALATION: Irritant. May cause irritation of nose, throat and lungs. Inhalation of vapors and / or aerosols in high concentration may cause irritation of the respiratory system.

EYES CONTACT: Irritating. Causes eye burns. Severe eye irritation.

PRIMARY ROUTE(S) OF ENTRY: skin contact, inhalation, ingestion eye contact.

IV. FIRST AID MEASURES

GENERAL ADVICE

Consult a physician. If breathing has stopped or is labored, give assisted respiration. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Inhalation

If breathing has stopped or is labored, give assisted respirations. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately move to a fresh air.

Skin contact

Rinse immediately with plenty of water for at least 20 minutes. Immediately remove contaminated clothing and any foreign chemical. Do so without delay. Remove contaminated clothing and shoes immediately.

NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

Eye contact

Rinse immediately with plenty of water, also under the eyelids for at least 20 minutes. Remove your contact lenses.

Ingestion

If the person vomits and is lying on her back, will be placed in the recovery position, prevent aspiration of vomit, turn the victim's head to the side.



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V. FIRE-FIGHTING MEASURES

FLASH POINT: >212°F (100°C)
LOWER EXPLOSIVE LIMIT: not determined
UPPER EXPLOSIVE LIMIT: not determined
AUTOIGNITION TEMPERATURE: >150 °C
FLAMMABILITY-OSHA: COMBUSTIBLE - CLASS IIIB

SUITABLE EXTINGUISHING MEDIA: alcohol-resistant foam, carbon dioxide, dry chemical, dry sand, limestone powder.

SPECIFIC HAZARDS DURING FIRE FIGHTING: Incomplete combustion can form carbon monoxide. Personal risk is downwind should be evacuated. Burning produces noxious and toxic fumes.

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS: Not applicable.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Use personal protective equipment. Use a self-contained breathing apparatus for fire fighting if necessary.

HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion may produce carbon monoxide, carbon dioxide, toxic gases or fumes.

OSHA FLAMMABLE CLASS: Combustible Liquid, Class IIIB.

VI. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear self contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye / face protection. Evacuate personnel to safe areas.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate area, remove or remove possible sources of sparks or flame and stir-absorbent inert material. Construct a dike to prevent spreading.

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

◆ **SMALL SPILL:** ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

◆ **LARGE SPILL:** ELIMINATE ALL IGNITION SOURCES. 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 WAY BE TAKEN UP ON SAND CLAY, EARTH, FLOOR ABSORBENT AND SHOVEL INTO CONTAINERS. PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER, BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED THAT A SPILL HAS OCCURED.



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WASTE DISPOSAL METHOD:

♦ **SMALL SPILL:** ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPOURS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

♦ **LARGE SPILLS:** DESTROY BY LIQUID INCINERATION. CONTAMINATED ABSORBENT WAY DEPOSITED IN LANDFILL IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REGULATIONS.

VII. HANDLING AND STORAGE

HANDLING

General Procedures Handling

Advice on Safe Handling:

Emergency showers and wash stations eyes should be easily accessible. Adhere to practical work rules established by government regulations. Avoid eye contact. Use only in a well ventilated. Avoid inhalation of vapors and / or aerosols. Use personal protective equipment, while using, do not eat, drink or smoking.

Advice on protection against fire and explosion: Take necessary action to avoid static charges, keep away from ignition sources.

STORAGE

Requirements for storage areas and containers

Keep containers tightly closed in a dry, cool and well ventilated.

Shelf life:

6 months @ 77 °F (25 °C): After the date of manufacture.

Further Information

Do not store in reactive metal containers.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures

Provide easy access to eyewash stations and showers safety.

Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.



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Personal protective equipment

- General protective measures:** Avoid contact with eyes and skin.
- Hygiene measures:** No smoking, eating or drinking allowed when using this product. Wash hands before breaks and at end of work shift or using the toilet.
- Respiratory protection:** Not required for well ventilated areas. Use appropriate respirator when ventilation is inadequate. In case of formation of vapors/aerosols: respiratory protective equipment, cartridge for organic gases and vapors.
- Hand protection:** Impervious gloves
PVC disposable gloves
The breakthrough time of gloves selected must be greater than the period of use provided.
- Eye protection:** Safety glasses resistant against products chemicals.
- Protective clothing:** Light clothing such as long sleeved shirts and pants without hem.

IX. PHYSICAL AND CHEMICAL PROPERTIES

- Form:** Viscous liquid
- Colour:** Amber
- Odour:** Ammoniacal
- Water solubility:** Partially soluble
- pH:** 9.4
- Melting temperature:** Not determined
- Boiling temperature:** >212°F (100°C)
- Vapour pressure:** 15 mmHg @ 69,8°F (21°C)
- Flash point:** >212°F (100°C)
- Density:** 1.0005 - 1.2050 g/cm³ @ 77 °F (25 °C)
- Viscosity:** 3,250 - 3,650 cps @ 77 °F (25°C)

X. STABILITY AND REACTIVITY

- Thermal decomposition:** Not determined
- Hazardous reactions:** No hazardous reactions know if handled and stores the material properly.
- Hazardous polymerization:** No



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Stability: This product is stable under normal storage conditions storage.

Hazardous decomposition products (BY FIRE, BURNING OR WELDING): Carbon dioxide (CO₂), carbon monoxide (CO) and other compounds determined.

Materials to avoid: Mineral acids, bases and incompatible with oxidizing agents.

Conditions to avoid: Heat, open flame, electric arc and sparks.

XI. TOXICOLOGICAL INFORMATION

LD50 (ACUTE INGESTION TOX): LD50, is estimated to be greater than 2,960 mg/kg (rats)
LD50 (ACUTE DERMAL TOX): LD50, is estimated to be greater than 5,000 mg/kg (rabbits)
LC50 (INHALATION-COMPONENTS TOX):

Acetic acid LC50 (1 h) : >39 mg/L (rat)
Dyethylenetriamine (DETA) LC50 (4 h) : >0.07 - 0.3 mg/L (rat)

EFFECTS OF CHRONIC EXPOSURE: Not available.
SENSITIZATION: May cause sensitization by skin contact.
CARCINOGENICITY: No determined.
DERMAL TOXICITY: No determined.
TERATOGENICITY: No determined.
MUTAGENECITY: No determined.

XII. ECOLOGICAL INFORMATION

No ecotoxicological studies are available. The product is considered water contaminant. Do not allow to enter soil, water or sewer.

Ecotoxicity

Aquatic toxicity: Biodegradation
No data available for this product.

Toxicity to fish-components:
Acetic acid LC50 (96 h): 75 mg/L Species: Sunfish (*Lepomis macrochirus*)
Acetic acid LC50 (96 h): 79 mg/L Species: Fathead minnow (*Pimephales promelas*)

Toxicity to daphnia-components:
CE50 acetic acid (48 h): 65 mg/L Species: Daphnia

Toxicity to other organisms: No data available for this product.



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Persistence and degradability

Mobility: No data available.

Bioaccumulation: No data available for the product itself.

Bioaccumulation-components:

Acetic acid insignificant bioaccumulation potential.

XIII. DISPOSAL CONSIDERATIONS

The arrangement shall be in accordance with environmental control laws federal, state and local existents. Incineration is the preferred method.

Product disposal and

Disposal requirements: According to local regulations, will take the incineration of hazardous waste.

Contaminated packaging:

Empty containers with product residues; observe all precautions for the product. Not hot or weld empty containers cut electric or gas because vapors and gases are formed highly toxic. Dispose of container and content unused contents in accordance with federal, state and local requirements.

HOT OR NOT EMPTY CONTAINERS WITH CUTTING WELDING TORCH GAS OR ELECTRIC.

XIV. TRANSPORT INFORMATION

DOT (INLAND)

Proper Shipping name:	Reactor R-360
Class:	3
UN/ID No:	1263
Packing Group:	III
Risk Label:	3

IATA/ICAO (AIR)

Proper Shipping name:	Reactor R-360
Class:	3
UN/ID No:	1263
Packing Group:	III
Risk Label:	3

IMDG/IMO (SHIPPING)

Proper Shipping name:	Reactor R-360
Class:	3
UN/ID No:	1263
Packing Group:	III
Risk Label:	3



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XV. REGULATORY INFORMATION

Federal regulations of the United States

Standard Classification Hazard Communication OSHA: **Irritant-dangerous**

HMIS RATINGS

XVI. OTHER INFORMATION

NFPA RATING

Clasificación NFPA 704M

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 0
OTHERS: G

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

Clasificación HMIS

HEALTH: 2
FLAMMABILITY: 1
PHYSICAL HAZARD: 0

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme
* = Chronic Hazard for Health.

THE INFORMATION PROVIDED IN THIS SAFETY DATA SHEET 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, UNLESS SPECIFIED IN THE TEXT.

<END OF MSDS>