# SAFETY DATA SHEET

## NALCO® 359

## Section: 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | NALCO® 359 |
| Other means of identification | : | Not applicable. |
| Recommended use | : | CORROSION INHIBITOR |
| Restrictions on use | : | Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits. |
| Company | : | Nalco Company<br>1601 W. Diehl Road<br>Naperville, Illinois 60563-1198<br>USA<br>TEL: (630)305-1000 |
| Emergency telephone number | : | (800) 424-9300 (24 Hours) CHEMTREC |
| Issuing date | : | 12/01/2014 |

## Section: 2. HAZARDS IDENTIFICATION

### GHS Classification

| | | |
|---|---|---|
| Flammable liquids | : | Category 4 |
| Acute toxicity (Oral) | : | Category 4 |
| Acute toxicity (Inhalation) | : | Category 3 |
| Acute toxicity (Dermal) | : | Category 4 |
| Skin corrosion | : | Category 1A |
| Serious eye damage/eye irritation | : | Category 1 |
| Specific target organ toxicity - single exposure | : | Category 3 (Respiratory system) |

### GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Combustible liquid
Harmful if swallowed or in contact with skin
Causes severe skin burns and eye damage.
Toxic if inhaled.
May cause respiratory irritation.

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated

area. Wear protective gloves/ protective clothing/ eye protection/ face protection.
**Response:**
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
**Storage:**
Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
**Disposal:**
Dispose of contents/ container to an approved waste disposal plant.

**Other hazards** : None known.

## Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No. | Concentration: (%) |
|---|---|---|
| Diethylethanolamine | 100-37-8 | 30 - 60 |

## Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention immediately.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders.Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

## Section: 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during firefighting | : | Fire Hazard<br>Keep away from heat and sources of ignition.<br>Flash back possible over considerable distance.<br>Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. |
| Hazardous combustion products | : | Decomposition products may include the following materials:<br>Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus |
| Special protective equipment for firefighters | : | Use personal protective equipment. |
| Specific extinguishing methods | : | Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes. |

## Section: 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : | Do not allow contact with soil, surface or ground water. |
| Methods and materials for containment and cleaning up | : | Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water. |

## Section: 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Advice on safe handling | : | Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. |
| Conditions for safe storage | : | Keep away from heat and sources of ignition. Do not store near acids. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Connections must be grounded to avoid electrical charges. |

| | | |
|---|---|---|
| Suitable material | : | The following compatibility data is suggested based on similar product data and/or industry experience:<br>The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use. |
| Unsuitable material | : | The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Brass, Bronze, and their alloysThe following compatibility data is suggested based on similar product data and/or industry experience: |

## Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Form of exposure | Permissible concentration | Basis |
|---|---|---|---|---|
| Diethylethanolamine | 100-37-8 | TWA | 2 ppm | ACGIH |
| | | TWA | 10 ppm<br>50 mg/m3 | NIOSH REL |
| | | TWA | 10 ppm<br>50 mg/m3 | OSHA Z1 |

| | | |
|---|---|---|
| Engineering measures | : | Effective exhaust ventilation system Maintain air concentrations below occupational exposure standards. |

**Personal protective equipment**

| | | |
|---|---|---|
| Eye protection | : | Safety goggles<br>Face-shield |
| Hand protection | : | Wear the following personal protective equipment:<br>Standard glove type.<br>Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. |
| Skin protection | : | Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing |
| Respiratory protection | : | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard. |

## Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Liquid |
| Colour | : | colourless |
| Odour | : | amine-like |

| | | |
|---|---|---|
| Flash point | : | 89 °C<br>Method: ASTM D 93, Pensky-Martens closed cup |
| pH | : | 11.7, 100 %<br>Method: ASTM E 70 |
| Odour Threshold | : | no data available |
| Melting point/freezing point | : | FREEZING POINT: -12 °C, ASTM D-1177 |
| Initial boiling point and boiling range | : | no data available |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | no data available |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Relative density | : | 0.98 - 0.99 (15.6 °C) ASTM D-1298 |
| Density | : | 0.98 - 0.99 g/cm3<br>8.1 - 8.2 lb/gal |
| Water solubility | : | completely soluble |
| Solubility in other solvents | : | no data available |
| Partition coefficient: n-octanol/water | : | no data available |
| Auto-ignition temperature | : | no data available |
| Thermal decomposition temperature | : | no data available |
| Viscosity, dynamic | : | 8.1 mPa.s (25 °C)<br>Method: ASTM D 2983 |
| Viscosity, kinematic | : | no data available |
| VOC | : | 39.8 % |

## Section: 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | : | Heat, flames and sparks. |
| Incompatible materials | : | Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.<br>Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.<br>Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles.<br>Certain amines in contact with nitrous acid, organic or inorganic |

| | | |
|---|---|---|
| | | nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals. |
| Hazardous decomposition products | : | Decomposition products may include the following materials:<br>Carbon oxides<br>nitrogen oxides (NOx)<br>Sulphur oxides<br>Oxides of phosphorus |

## Section: 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Inhalation, Eye contact, Skin contact |

**Potential Health Effects**

| | | |
|---|---|---|
| Eyes | : | Causes serious eye damage. |
| Skin | : | Harmful in contact with skin. Causes severe skin burns. |
| Ingestion | : | Harmful if swallowed. Causes digestive tract burns. |
| Inhalation | : | Toxic if inhaled. May cause respiratory tract irritation. May cause nose, throat, and lung irritation. |
| Chronic Exposure | : | Health injuries are not known or expected under normal use. |

**Experience with human exposure**

| | | |
|---|---|---|
| Eye contact | : | Redness, Pain, Corrosion |
| Skin contact | : | Redness, Pain, Corrosion |
| Ingestion | : | Corrosion, Abdominal pain |
| Inhalation | : | Respiratory irritation, Cough |

**Toxicity**

**Product**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 rat: 1,300 mg/kg<br>Test substance: Active Substance |
| Acute inhalation toxicity | : | Acute toxicity estimate : 7.54 mg/l<br>Exposure time: 4 h |
| Acute dermal toxicity | : | LD50 rabbit: 1,260 mg/kg<br>Test substance: Active Substance |
| Skin corrosion/irritation | : | no data available |
| Serious eye damage/eye irritation | : | no data available |
| Respiratory or skin | : | no data available |

sensitization

| | | |
|---|---|---|
| Carcinogenicity | : | no data available |
| Reproductive effects | : | no data available |
| Germ cell mutagenicity | : | no data available |
| Teratogenicity | : | no data available |
| STOT - single exposure | : | no data available |
| STOT - repeated exposure | : | no data available |
| Aspiration toxicity | : | no data available |

## Section: 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

| | | |
|---|---|---|
| Environmental Effects | : | Harmful to aquatic life. |

**Product**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 Oncorhynchus mykiss (rainbow trout): 100 - 1,000 mg/l<br>Exposure time: 96 hrs<br>Test substance: Product<br><br>LC50 Lepomis macrochirus (Bluegill sunfish): 100 - 1,000 mg/l<br>Exposure time: 96 hrs<br>Test substance: Product |

**Persistence and degradability**

The organic portion of this preparation is expected to be readily biodegradable.

Chemical Oxygen Demand (COD): 141,000 mg/l

**Mobility**

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

| | | |
|---|---|---|
| Air | : | <5% |
| Water | : | 30 - 50% |
| Soil | : | 50 - 70% |

The portion in water is expected to be soluble or dispersible.

**Bioaccumulative potential**

This preparation or material is not expected to bioaccumulate.

**Other information**

no data available

## Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

| | | |
|---|---|---|
| Disposal methods | : | The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. |
| Disposal considerations | : | Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. |

## Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

**Land transport (DOT)**

| | | |
|---|---|---|
| Proper shipping name | : | AMINES, LIQUID, CORROSIVE, N.O.S. |
| Technical name(s) | : | DIETHYLAMINOETHANOL |
| UN/ID No. | : | UN 2735 |
| Transport hazard class(es) | : | 8 |
| Packing group | : | II |

**Air transport (IATA)**

| | | |
|---|---|---|
| Proper shipping name | : | AMINES, LIQUID, CORROSIVE, N.O.S. |
| Technical name(s) | : | DIETHYLAMINOETHANOL |
| UN/ID No. | : | UN 2735 |
| Transport hazard class(es) | : | 8 |
| Packing group | : | II |

**Sea transport (IMDG/IMO)**

| | | |
|---|---|---|
| Proper shipping name | : | AMINES, LIQUID, CORROSIVE, N.O.S. |
| Technical name(s) | : | DIETHYLAMINOETHANOL |
| UN/ID No. | : | UN 2735 |
| Transport hazard class(es) | : | 8 |
| Packing group | : | II |

## Section: 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard
Fire Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**California Prop 65**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

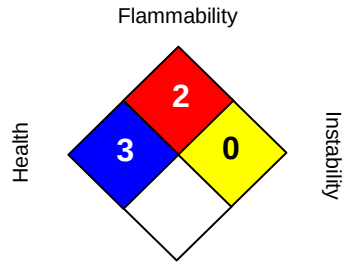
TOXIC SUBSTANCES CONTROL ACT (TSCA)
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

## Section: 16. OTHER INFORMATION

**NFPA:**




Special hazard.

**HMIS III:**

| | |
|---|---|
| HEALTH | 3 |
| FLAMMABILITY | 2 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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.
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