

**Section: 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 460-S0275 SOLN,H-2 TOTAL HARDNESS BUFFER

Other means of identification : Not applicable.

Recommended use : REAGENT

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois 60563-1198  
USA  
TEL: (630)305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 01/20/2015

**Section: 2. HAZARDS IDENTIFICATION**

**GHS Classification**

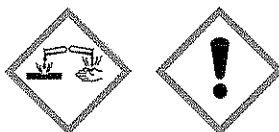
Skin corrosion : Category 1B

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 :

Causes severe skin burns and eye damage.  
May cause respiratory irritation.

Precautionary Statements :

**Prevention:**  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
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.

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Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

### Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect product from freezing.

### Disposal:

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

Other hazards : None known.

### Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Monoethanolamine	141-43-5	10 - 30
Monoethanolamine Hydrochloride	2002-24-6	5 - 10

### 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 if symptoms occur.

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 : None known.

Specific hazards during firefighting : Not flammable or combustible.

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- Hazardous combustion products : Decomposition products may include the following materials:  
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. 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 : 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 : Do not ingest. 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 out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Protect product from freezing.
- Suitable material : 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 : not determined

### Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Monoethanolamine	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 8 mg/m <sup>3</sup>	NIOSH REL

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	STEL	6 ppm 15 mg/m <sup>3</sup>	NIOSH REL
	TWA	3 ppm 6 mg/m <sup>3</sup>	OSHA Z1

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

**Personal protective equipment**

Eye protection : Safety goggles  
Face-shield

Hand protection : Wear the following personal protective equipment:  
Standard glove type.  
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 : Colorless

Odour : Slight, Amine

Flash point : 93.3 °C  
Method: ASTM D 93, Pensky-Martens closed cup minimum

pH : 10, 100 %  
Method: ASTM E 70 (undiluted)

Odour Threshold : no data available

Melting point/freezing point : no data available

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 : similar to water

Relative vapour density : no data available

Relative density : 0.95 ASTM D-1298

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Density	: 7.89 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	: no data available
Viscosity, kinematic	: no data available
VOC	: 29 %

### 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	: Freezing temperatures.
Incompatible materials	: 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. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.  Strong acids
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides 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	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.
Inhalation	: 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

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

### Toxicity

#### Product

Acute oral toxicity : Acute toxicity estimate : 3,978 mg/kg  
Acute inhalation toxicity : Acute toxicity estimate : > 40 mg/l  
Exposure time: 4 h  
Acute dermal toxicity : Acute toxicity estimate : 3,745 mg/kg  
Skin corrosion/irritation : no data available  
Serious eye damage/eye irritation : no data available  
Respiratory or skin sensitization : no data available  
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.

### Components

Toxicity to daphnia and other aquatic invertebrates : Monoethanolamine  
EC50 Daphnia: 65 mg/l  
Exposure time: 48 h

### Persistence and degradability

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

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### 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	:	ETHANOLAMINE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 2491
Transport hazard class(es)	:	8
Packing group	:	III

### Air transport (IATA)

Proper shipping name	:	ETHANOLAMINE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 2491

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Transport hazard class(es) : 8  
Packing group : III

### Sea transport (IMDG/IMO)

Proper shipping name : ETHANOLAMINE SOLUTION  
Technical name(s) :  
UN/ID No. : UN 2491  
Transport hazard class(es) : 8  
Packing group : III

## 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

**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).

#### AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

#### CHINA

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

#### EUROPE

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



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## JAPAN

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

## KOREA

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

## NEW ZEALAND

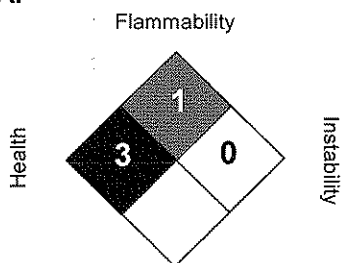
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

## PHILIPPINES

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

## Section: 16. OTHER INFORMATION

### NFPA:



### HMIS III:

<b>HEALTH</b>	<b>3</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

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

Revision Date : 01/20/2015  
Version Number : 1.0  
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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