NALCO Water
An Ecolab Company

SAFETY DATA SHEET

460-S0771 SOLN N-2 Titrant, Form Liquid

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	460-S0771 SOLN N-2 Titrant, Form Liquid
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	:	04/04/2018

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals	:	Category 1
Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May be corrosive to metals.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary Statements : **Prevention:**
Keep only in original container. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.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.

Storage:
Store in corrosive resistant container with a resistant inner liner.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Sulfuric Acid	7664-93-9	30 - 60
Ceric ammonium nitrate	16774-21-3	10 - 30

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.

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. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Product is corrosive to aluminum. Aluminum should not be used for feed, storage, or transportation systems.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sulfuric Acid	7664-93-9	TWA (Thoracic fraction)	0.2 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		TWA	1 mg/m3	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	:	Orange
Odour	:	None
Flash point	:	, Method: Pensky-Martens closed cup, does not flash
pH	:	< 1,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	similar to water
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	:	1.2,
Density	:	9.97 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	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	no data available
VOC	:	0 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	Freezing temperatures.
Incompatible materials	:	Strong bases
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 nose, throat, and lung irritation.
Chronic Exposure	:	May cause cancer by inhalation.

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	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	Species: Rabbit Result: 8.0 Method: Draize Test Test substance: Hazardous component
Serious eye damage/eye irritation	:	Species: rabbit Result: 110.0 Method: Draize Test Test substance: Hazardous component
Respiratory or skin sensitization	:	Classification: May cause sensitisation by skin contact. Result: May cause an allergic skin reaction.
Carcinogenicity		
IARC		**Group 1: Carcinogenic to humans** Sulfuric Acid 7664-93-9
OSHA		No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP		**Known to be human carcinogen** Sulfuric Acid 7664-93-9
Reproductive effects	:	No reproductive toxic effects expected.
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 fish	:	Sulfuric Acid LC50 : 22 mg/l Exposure time: 96 h

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

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	:	30 - 50%

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 could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste:	:	D002
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.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical name(s)	:	Sulfuric Acid, Ceric ammonium nitrate
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	3,330 lbs
RQ Component	:	SULFURIC ACID

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	:	Sulfuric Acid, Ceric ammonium nitrate
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	3,330 lbs
RQ Component	:	SULFURIC ACID

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	:	Sulfuric Acid, Ceric ammonium nitrate
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	II
*Marine pollutant	:	Ceric ammonium nitrate

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	3333

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	3333

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation

SARA 302 :

Sulfuric Acid	7664-93-9

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Sulfuric Acid	7664-93-9	30 - 60 %

California Prop 65
WARNING! This product contains a chemical known to the State of California to cause cancer.

Sulfuric Acid	7664-93-9

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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

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

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory
This product contains substance(s) which are not in compliance with the Law Regulating the Manufacture and Importation Of Chemical Substances and are not listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
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).

China Inventory of Existing Chemical Substances
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).

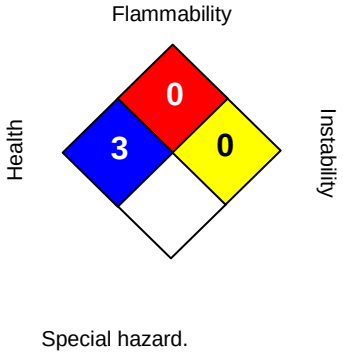
Japan. ENCS - Existing and New Chemical Substances Inventory
not determined

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA 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.

Taiwan Chemical Substance Inventory
not determined

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date	:	04/04/2018
Version Number	:	1.3
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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