

SAFETY DATA SHEET

NALCO® 8344 IRON REMOVER

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NALCO® 8344 IRON REMOVER

Other means of identification : Not applicable.

Recommended use : IRON REMOVER

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 : 06/27/2017

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1
Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : May be corrosive to metals.
Causes serious eye irritation.

Precautionary Statements : **Prevention:**
Keep only in original container. Wash skin thoroughly after handling. Wear eye protection/face protection.
Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. Absorb spillage to prevent material damage.
Storage:
Store in corrosive resistant stainless steel container with a resistant inner liner.

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

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS-No.	Concentration: (%)
Citric Acid	77-92-9	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.

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : 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 : Carbon oxides

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 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.

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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 : Avoid contact with skin and eyes. 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. Freezing will affect the physical condition but will not change the material. Thaw and mix before using.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: HDPE (high density polyethylene), 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

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection : Wear protective gloves.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : If significant mists, vapors or aerosols are generated an approved respirator is recommended.

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

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Colour	: clear
Odour	: Characteristic
Flash point	: does not flash
pH	: 1.0,(100 %)
Odour Threshold	: no data available
Melting point/freezing point	: FREEZING POINT: -12.1 °C
Initial boiling point and boiling range	: 102.2 °C
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	: 22 mm Hg, (25 °C),
Relative vapour density	: no data available
Relative density	: 1.25, (15.6 °C),
Density	: 1.24 g/cm ³ , 10.39 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
Molecular weight	: no data available
VOC	: 0 %, EPA Method 24

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	: Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and

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toxic vapors.

Hazardous decomposition products : In case of fire, hazardous decomposition products may be produced such as:
Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes : Causes serious eye irritation.
Skin : Health injuries are not known or expected under normal use.
Ingestion : Health injuries are not known or expected under normal use.
Inhalation : Health injuries are not known or expected under normal use.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Irritation
Skin contact : No symptoms known or expected.
Ingestion : No symptoms known or expected.
Inhalation : No symptoms known or expected.

Toxicity

Product

Acute oral toxicity : LD50 rat: 5,000 mg/kg
Test substance: Active Substance
Acute inhalation toxicity : no data available
Acute dermal toxicity : no data available
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

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STOT - repeated exposure : no data available

Aspiration toxicity : no data available

Components

Acute dermal toxicity : Citric Acid
LD50 rat: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 *Lepomis macrochirus* (Bluegill sunfish): 1,516 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

Toxicity to daphnia and other aquatic invertebrates : EC50 *Daphnia magna* (Water flea): 120 mg/l
Exposure time: 72 hrs
Test substance: Active Substance

NOEC *Daphnia magna* (Water flea): < 80 mg/l
Exposure time: 72 hrs
Test substance: Active Substance

LC50 *Ceriodaphnia dubia*: 927 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 *Ceriodaphnia dubia*: 903 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC *Ceriodaphnia dubia*: 648 mg/l
Exposure time: 48 hrs
Test substance: Product

Persistence and degradability

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

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%

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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 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. The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Hazardous Waste: : D002

Disposal methods : 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 : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s) : Citric Acid
UN/ID No. : UN 3265
Transport hazard class(es) : 8
Packing group : III

Air transport (IATA)

Proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s) : Citric Acid
UN/ID No. : UN 3265
Transport hazard class(es) : 8
Packing group : III

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Sea transport (IMDG/IMO)

Proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s) : Citric Acid
UN/ID No. : UN 3265
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 :

United States TSCA Inventory

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

Australia. Industrial Chemical (Notification and Assessment) Act

This product contains substance(s) which are not in compliance with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS) and may require additional review.

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)

This product contains substance(s) which are not in compliance with the Chemical Control Act (CCA) and may require additional review.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

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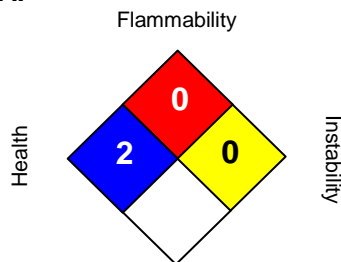
This product contains substance(s) which are not in compliance with the Republic Act 6969 (RA 6969) and may require additional review.

China Inventory of Existing Chemical Substances

This product contains substance(s) which are not in compliance with the Provisions on the Environmental Administration of New Chemical Substances and may require additional review.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date : 06/27/2017
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. For additional copies of an SDS visit www.nalco.com and request access.