



SAFETY DATA SHEET

1. Identification

Product identifier Starbrite Rust Stain Remover

Other means of identification

Product code 892XX

Recommended use Cleaner

Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable liquids Category 4

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Combustible liquid. Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. 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/doctor. Take off contaminated clothing and wash before reuse.

Storage Keep locked-up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Oxalic acid	144-62-7	8
Ethylene glycol n-butyl ether	111-76-2	4.5

4. First-aid measures

Inhalation	If symptomatic, move to fresh air. Get medical attention if symptoms persist.
Skin contact	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Ingestion	Seek medical advice.
Most important symptoms/effects, acute and delayed	Causes skin and eye irritation. May cause respiratory tract irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Combustible liquid and vapor.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do it without risk.
Specific methods	Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear protective clothing as described in Section 8 of this safety data sheet. Ensure adequate ventilation. Ventilate closed spaces before entering them. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewers, basements or confined areas. Dike the spilled material, where this is possible. Collect spillage. Do not allow material to contaminate ground water system. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Never return spills to original containers for re-use. Following product recovery, flush area with water. This material and its container must be disposed of as hazardous waste. Clean up in accordance with all applicable regulations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling	Keep away from heat, spark, open flames and other sources of ignition. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Wear personal protective equipment. Use only with adequate ventilation. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep locked-up. Keep container tightly closed and in a well-ventilated place. Do not handle or store near an open flame, heat or other sources of ignition. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylene glycol n-butyl ether (CAS 111-76-2)	PEL	240 mg/m ³ 50 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Oxalic acid (CAS 144-62-7)	PEL	1 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylene glycol n-butyl ether (CAS 111-76-2)	TWA	20 ppm
Oxalic acid (CAS 144-62-7)	STEL	2 mg/m ³
	TWA	1 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethylene glycol n-butyl ether (CAS 111-76-2)	TWA	24 mg/m ³
		5 ppm
Oxalic acid (CAS 144-62-7)	STEL	2 mg/m ³
	TWA	1 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylene glycol n-butyl ether (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines No exposure standards allocated.

US - California OELs: Skin designation

Ethylene glycol n-butyl ether (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Ethylene glycol n-butyl ether (CAS 111-76-2) Skin designation applies.

US - Tennessee OELs: Skin designation

Ethylene glycol n-butyl ether (CAS 111-76-2) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Ethylene glycol n-butyl ether (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ethylene glycol n-butyl ether (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Provide adequate ventilation. General ventilation normally adequate. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear suitable protective clothing. Anti-static and flame-retardant protective clothing is recommended. Wear chemical protective equipment that is specifically recommended by the manufacturer.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not available.

General hygiene considerations

Always observe national occupational health and hygiene requirements including requirements for medical surveillance.

9. Physical and chemical properties

Appearance	Clear liquid.
Physical state	Liquid.
Form	Liquid.
Color	Clear.
Odor	Sweet. Pleasant.
Odor threshold	Not available.
pH	1 Approx.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	153.9 °F (67.7 °C)
Evaporation rate	Similar to water.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.01 @ 20 °C
Solubility(ies)	
Solubility (water)	Completely soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, sparks, flames, elevated temperatures. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Chlorites and hypochlorites.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	No harmful effects expected in amounts likely to be ingested by accident.
Inhalation	May cause respiratory tract irritation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritant effects.

Information on toxicological effects

Acute toxicity Not classified.

Components	Species	Test Results
Ethylene glycol n-butyl ether (CAS 111-76-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	400 mg/kg
<i>Inhalation</i>		
LC50	Mouse	700 mg/l, 7 Hours
	Rat	450 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	1.2 g/kg
	Mouse	1.2 g/kg
	Rabbit	0.32 g/kg
	Rat	560 mg/kg
<i>Other</i>		
LD50	Mouse	1130 mg/kg
	Rabbit	280 mg/kg
	Rat	340 mg/kg

Oxalic acid (CAS 144-62-7)

Acute

Oral

LC50 Rat 375 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity Not classified.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylene glycol n-butyl ether (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

12. Ecological information

Ecotoxicity Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
Ethylene glycol n-butyl ether (CAS 111-76-2)		
Aquatic		
Fish	LC50 Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours

Components	Species	Test Results
Oxalic acid (CAS 144-62-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		125 - 150 mg/l, 48 hours
Persistence and degradability	Not established.	
Bioaccumulative potential	Not established.	
Partition coefficient n-octanol / water (log Kow)		
Ethylene glycol n-butyl ether (CAS 111-76-2)		0.83
Mobility in soil	Not established.	
Other adverse effects	Not established.	

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with applicable federal, state, and local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

UN number	NA1993
UN proper shipping name	Combustible liquids, n.o.s. (Ethylene glycol n-butyl ether)
Transport hazard class(es)	
Class	Combustible Liquid
Subsidiary risk	-
Packing group	III
Special precautions for user	Not available.
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Oxalic acid (CAS 144-62-7) 1.0 % One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene glycol n-butyl ether (CAS 111-76-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylene glycol n-butyl ether	111-76-2	4.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Ethylene glycol n-butyl ether (CAS 111-76-2)

Oxalic acid (CAS 144-62-7)

US. New Jersey Worker and Community Right-to-Know Act

Ethylene glycol n-butyl ether (CAS 111-76-2)

Oxalic acid (CAS 144-62-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethylene glycol n-butyl ether (CAS 111-76-2)

Oxalic acid (CAS 144-62-7)

US. Rhode Island RTK

Ethylene glycol n-butyl ether (CAS 111-76-2)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

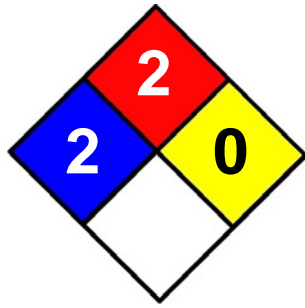
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	15-May-2014
Revision date	-
Version #	01

NFPA Ratings**References**

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

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