

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING *

1.1. Product identifier

Product name : STAR BRITE -73°C ANTIFREEZE
Product code : 315XX

1.2. Relevant identified uses of the substance or mixture and uses advised against

Application : SU21 Consumer product. PC4 Anti-freeze and de-icing products. Coolant.

1.3. Details of the supplier of the safety data sheet

Supplier : Star Brite Europe Inc.
86 bis route de Brignais
69630 Chaponost, France
Telephone : +33-478-56-77-80
Fax : +33-472-39-97-96
E-mail : jp.kitzinger@starbrite-europe.com
Website : www.starbrite.com

1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:
FR - Telephone : +33-478-56-77-80 (During office hours only)
EMERGENCY TELEPHONE NUMBER (for DOCTORS only):
National Poisons Information Service +44-844 892 0111 (24/7)

SECTION 2 HAZARDS IDENTIFICATION *

2.1. Classification of the substance or mixture

CLP classification : Not classified as dangerous according to Regulation (EC) No 1272/2008.
(1272/2008/EC)
Human health hazards : Low hazard for usual industrial or commercial handling.
Physical/chemical hazards : Not classified as dangerous according to statutory EC-Directives.
Environmental hazards : Not classified as dangerous according to statutory EC-Directives.

2.2. Label elements

Label elements (1272/2008/EC):
Hazard pictograms : None.
Signal word : Not applicable.
H- and P-phrases : None.

2.3. Other hazards

Other information : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS *

3.2. Mixtures

Product description : Mixture.
Information on hazardous substances:

Substance name	Concentration (w/w) (%)	CAS nr.	EC number	Remark	REACH nr.
Glycerol	20 - 70	56-81-5	200-289-5	MAC	
Propyleneglycol	20 - 70	57-55-6	200-338-0	MAC	

Occupational exposure limit(s), if relevant, are listed in section 8.

Substance name	Hazard Class	H-phrases	Pictograms
Glycerol	-----	-----	-----
Propyleneglycol	-----	-----	-----

SECTION 4 FIRST-AID MEASURES

4.1. Description of first aid measures

First aid measures

- Inhalation : Move victim into fresh air. Consult a doctor if victim feels unwell.
- Skin contact : Take off contaminated clothing. Wash off skin with plenty of water and soap before product dries up.
- Eye contact : Wash out with (lukewarm) water for at least 15 minutes. Remove contact lenses. Consult a doctor if irritation persists.
- Ingestion : Do not induce vomiting. Do rinse the mouth. Give one glass of water. Never give anything by mouth to an unconscious person. Consult a doctor if victim feels unwell.

4.2. Most important symptoms and effects, both acute and delayed

Effects and symptoms

- Inhalation : May cause headache, dizziness and a feeling of sickness.
- Skin contact : May cause dry skin.
- Eye contact : May cause stinging of eyes and redness.
- Ingestion : May cause a feeling of sickness, vomiting and diarrhoea.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians : None known.

SECTION 5 FIRE-FIGHTING MEASURES

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5.1. Extinguishing media

Extinguishing media

- Suitable : Carbondioxide (CO2). Alcohol resistant foam. Dry chemical. Water fog.
- Not suitable : None known.

5.2. Special hazards arising from the substance or mixture

- Special exposure hazards : None known.
- Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

5.3. Advice for firefighters

Special protective equipment for fire-fighters : Use adequate respiratory equipment in case of insufficient ventilation.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Danger of slipping. Clean up spills immediately. Wear shoes with non-slip soles. Vapours are heavier than air. Build up (of gasses) in low areas involves risk of suffocation.

6.2. Environmental precautions

Environmental precautions : Avoid release of product into sewers, surface water and/or ground water. In case of large spills: contain with dike.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spilled material in containers. Absorb residues in sand or other inert material. Dispose at an authorised waste collection point. Wash away remainder with plenty of water and soap.

6.4. Reference to other sections

Reference to other sections : See also section 8.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas. Do not breathe vapour. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep in a cool, dry and well-ventilated place (< 35 °C). Keep away from oxidizing agents.
 Recommended packaging : Keep only in the original container.
 Non recommended packaging : Steel (except stainless steel).

7.3. Specific end use(s)

Use : Use only as directed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION *

8.1. Control parameters

Occupational exposure limits : Occupational exposure limits have not been established for this product. Derived no-effect levels (DNEL) have not been established for this product. Predicted no-effect concentrations (PNEC) have not been established for this product.

Workplace exposure limits (mg/m³):

Chemical name	Country	TWA 8 hour (mg/m ³)	STEL 15 min (mg/m ³)	Comments
Glycerol	GB	10	-	Mist
Glycerol		10	-	Mist
Propyleneglycol	GB	474	-	Total Vapour and Particulates
Propyleneglycol		474	-	MAC UK: Total Vapour and Particulates

Derived no-effect level (DNEL) for workers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Glycerol	Inhalation			56 mg/m ³	
Propyleneglycol	Inhalation			10 mg/m ³	168 mg/m ³

Derived no-effect level (DNEL) for consumers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Glycerol	Inhalation	33 mg/m ³			
Propyleneglycol	Oral Inhalation			10 mg/m ³	229 mg/kg bw/day 50 mg/m ³

Predicted no-effect concentration (PNEC):

Chemical name	Route of exposure	Fresh water	Marine water	
Glycerol	Water	0,885 mg/l	0,0885 mg/l	
	Sediment	3,3 mg/kg	0,33 mg/kg	
	Intermittent water			8,85 mg/l
	STP			1000 mg/l
Propyleneglycol	Soil			0,141 mg/kg
	Water	260 mg/l	26 mg/l	
	Sediment	572 mg/kg	57,2 mg/kg	
	Intermittent water			183 mg/l
	STP			20000 mg/l
	Soil			50 mg/kg
	Oral			1133 mg/kg food

8.2. Exposure controls

Engineering measures : Use only in well-ventilated areas. Comply with standard precautionary measures for working with chemicals.

Hygienic measures : When using do not eat, drink or smoke.

Personal protective equipment:

The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.

Body protection : Use of specific protective industrial clothing is not required under normal conditions of use.

Respiratory protection : Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.

Hand protection : Under normal conditions of use specific gloves are not required.

Eye protection : Wear appropriate safety glasses when there is danger of possible eye contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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9.1. Information on basic physical and chemical properties

Appearance	: Liquid.	
Colour	: Green.	
Odour	: Characteristic.	
Odour threshold	: Not known.	
pH	: 8	
Solubility in water	: Soluble.	
Partition coefficient (n-octanol/water)	: Not known.	
Flash point	: > 100 °C	
Flammability (solid, gas)	: Not applicable.	Liquid. See flashpoint.
Auto ignition temperature	: > 180 °C	
Boiling point/boiling range	: 115 °C	
Melting point/melting range	: -50 °C	
Explosive properties	: None known.	Does not contain explosives.
Explosion limits (% in air)	: Not known.	Lower explosion limit in air (%): 2,6 (Propyleneglycol)
		Upper explosion limit in air (%): 19 Glycerol
Oxidising properties	: Not applicable.	Does not contain oxidizing substances.

Decomposition temperature :	Not applicable.	
Viscosity (20°C) :	Not known.	
Viscosity (40°C) :	Not relevant.	The product contains < 10% substances having an aspiration hazard.
Vapour pressure (20°C) :	Not known.	
Vapour density (20°C) :	> 1	(air = 1)
Relative density (20°C) :	1,05 g/ml	
Evaporation rate :	Not known.	(n-butyl acetate = 1)

SECTION 10 STABILITY AND REACTIVITY
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10.1. Reactivity

Reactivity : See sub-sections below.

10.2. Chemical stability

Stability : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid : See section 7.

10.5. Incompatible materials

Materials to avoid : Keep away from oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Not known.

SECTION 11 TOXICOLOGICAL INFORMATION	*
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11.1. Information on toxicological effects

No toxicological research has been carried out on this product.

Inhalation

Acute toxicity	: Calculated LC50: > 10 mg/l. Ingredients of unknown toxicity: < 1 %. ATE: > 5 mg/l. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause headache, dizziness and a feeling of sickness.
Corrosion/irritation	: Not classified - based on available data, the classification criteria are not met.
Sensitisation	: Does not contain substances classified as respiratory sensitiser. Not classified - based on available data, the classification criteria are not met.
Carcinogenicity	: Not expected to be carcinogenic. Not classified - based on available data, the classification criteria are not met.
Mutagenicity	: Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.

Skin contact

Acute toxicity	: Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
Corrosion/irritation	: Prolonged contact may dry out and defat the skin. Not classified - based on available data, the classification criteria are not met.
Sensitisation	: Not classified - based on available data, the classification criteria are not met.
Mutagenicity	: Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.

Eye contact

Corrosion/irritation : Slight irritation possible. Not classified - based on available data, the classification criteria are not met.

Ingestion

Acute toxicity : Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.

Aspiration : Not classified - based on available data, the classification criteria are not met. Does not contain substances with an aspiration hazard.

Corrosion/irritation : May cause a feeling of sickness, vomiting and diarrhoea.

Carcinogenicity : Not expected to be carcinogenic. Not classified - based on available data, the classification criteria are not met.

Mutagenicity : Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.

Reprotoxicity : Development: Not expected to be reprotoxic. Development: Not classified - Based on available data, the classification criteria are not met. Fertility: not expected to be reprotoxic. Fertility: Not classified - based on available data, the classification criteria are not met.

SECTION 12	ECOLOGICAL INFORMATION	*
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12.1. Toxicity

No ecotoxicological research has been carried out on this product.

Ecotoxicity : Calculated LC50 (fish): 11838 mg/l. Calculated EC50 (waterflea): 7946 mg/l. Contains < 1 % of components with unknown hazards to the aquatic environment. Not classified - based on available data, the classification criteria are not met.

12.2. Persistence and degradability

Persistence – degradability : No specific information known.

12.3. Bioaccumulative potential

Bioaccumulative potential : No specific information known.

12.4. Mobility in soil

Mobility : If product enters soil, it will be highly mobile and may contaminate groundwater.

12.5. Results of PBT and vPvB ass

PBT/vPvB assessment : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

12.6. Other adverse effects

Other information : Not applicable.

SECTION 13	DISPOSAL CONSIDERATIONS	*
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13.1. Waste treatment methods

Product residues : Do not dispose empty pack with waste produced by households. Containers may be recycled. Treat product residues and non-empty pack as chemical waste. Dispose waste to an official chemical waste depot.

Additional warning : None.

Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14	TRANSPORT INFORMATION	*
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14.1. UN number

UN nr. : None.

14.2. UN proper shipping name

Transport name : Not regulated.

14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID/ADN (road/railway/inland waterways)

Class : This product is not classified according to ADR/RID/ADN.

IMDG (sea)

Class : This product is not classified according to IMDG.

Marine pollutant : No

IATA (air)

Class : This product is not classified according to IATA.

14.6. Special precautions for user

Other information : Country specific variations may apply.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

SECTION 15 REGULATORY INFORMATION

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15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Community regulations : Regulation (EC) No 453/2010 (REACH), Regulation (EC) No 1272/2008 (CLP) and other regulations.

15.2. Chemical safety assessment

Chemical safety assessment : Not applicable.

SECTION 16 OTHER INFORMATION

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16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EC) No 453/2010 dated 20 May 2010 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (*).

Full text of H-phrases mentioned in section 3: Not applicable.

Full text of hazard classes mentioned in section 3: Not applicable.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE : Acute Toxicity Estimate

CLP	: Classification, Labeling & Packaging
CMR	: Carcinogenic, Mutagenic or toxic for Reproduction
EEC	: European Economic Community
IATA	: International Air Transport Association
IBC code	: International Bulk Chemical Code
IMDG	: International Maritime Dangerous Goods Code
LD50/LC50	: Lethal Dose/Concentration for 50% of a population
MAC	: Maximum Allowable Concentration
MARPOL	: International Convention for the Prevention of Pollution From Ships
NO(A)EL	: No Observed (Adverse) Effect Level
OECD	: Organisation for Economic Co-operation and Development
PBT	: Persistent, Bioaccumulative and Toxic
PC	: Chemical product category
PT	: Product type
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	: Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	: Sewage Treatment Plant
SU	: Sector of Use
TWA/STEL	: Time-Weighted Average/Short Term Exposure Limit
UN	: United Nations
VOC	: Volatile Organic Compounds
vPvB	: Very Persistent and Very Bioaccumulative
Number format	: "," used as decimal separator.

End of safety data sheet.