

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment  
Regulation (EU) 2020/878

ISSUE DATE: 15.08.2014  
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**VERSION: 2.2**

**1. SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name	Antifreeze
Product code	151427
SDS Number	5202
Product use	Public use

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

Relevant identified uses	Anti-Freeze and De-icing products
Uses advised against	None known

**1.3. Details of the supplier of the safety data sheet****Supplier**

Jaguar Land Rover Limited  
Abbey Road  
CV3 4LF Whitley, Coventry - UK  
T +44 (0)870 5000 500 (Mo-Thu 08:00-17:00 GMT/Fri 08:00-14:00 GMT)  
[sds-info@sds.jlr.com](mailto:sds-info@sds.jlr.com)  
E-mail address of competent person responsible for the SDS : [HSE@rle.de](mailto:HSE@rle.de)

**1.4. Emergency telephone number**

+44 (0)207 858 1228  
(Worldwide English language number)

**2. SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008**

<b>Health hazards</b>	Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
	Reproductive toxicity, Category 2	H361d	Suspected of damaging the unborn child.
	Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs (kidneys) through prolonged or repeated exposure.

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008****Hazard pictograms****Signal word**

Warning

**Contains**

Ethanediol; Sodium 2-ethylhexanoate

**Hazard statements**

H302	Harmful if swallowed.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure.

**Precautionary statements**

**General**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

**Prevention**

P201 Obtain special instructions before use.

P260 Do not breathe vapours, mist.

P280 Wear protective clothing, protective gloves, eye protection, face protection

**Response**

P308+P313 IF exposed or concerned: Get medical advice/attention.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container to an approved waste disposal plant.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

**3. SECTION 3: Composition/information on ingredients****3.2. Mixtures**

Chemical name	CAS- No EC- No Index No RRN	%	Classification according to Regulation (EC) No. 1272/2008	Notes
Ethanediol	107-21-1 203-473-3 603-027-00-1 01-2119456816-28-XXXX	80 - < 100	Acute Tox. 4 (Oral), H302 STOT RE 2, H373	substance with a Community workplace exposure limit
Sodium 2-ethylhexanoate	19766-89-3 243-283-8	3 - < 5	Repr. 2, H361d	Listed in Annex V REACH, exempted from registration

The product has a bitter taste for safety reasons, in case it is swallowed accidentally

Full text of H-statements: see section 16

**4. SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

If possible show him this sheet. Failing this, show him the packaging or label. IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.

**Inhalation**

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

**Skin contact:**

Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water.

**Eyes contact**

Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

**Ingestion**

Rinse mouth. Call a poison center or a doctor if you feel unwell. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**4.2. Most important symptoms and effects, both acute and delayed****Symptoms/effects:**

Suspected of damaging the unborn child.

**Symptoms/effects after ingestion** Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

### 5. SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media** carbon dioxide (CO<sub>2</sub>). Dry powder. Alcohol resistant foam.

**Unsuitable extinguishing media** Do not use a water jet since it may cause the fire to spread.

#### 5.2. Special hazards arising from the substance or mixture

**Hazardous combustion products** Toxic fumes may be released.

#### 5.3. Advice for firefighters

**Firefighting instructions** Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray or fog for cooling exposed containers. Prevent fire fighting water from entering the environment.

**Protection during firefighting** Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### 6. SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**General measures** Keep people away from and upwind of spill/leak.

##### For non-emergency personnel

**Protective equipment** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS. Ensure adequate ventilation, especially in confined areas. Local authorities should be advised if significant spillages cannot be contained.

**Emergency procedures** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the MSDS. Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray.

##### For emergency responders

**Protective equipment** Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Take up liquid spill into absorbent material. Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Never return spills in original containers for re-use. Large Spills: Dike the spilled material, where this is possible. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Wash clothing and equipment after handling. Notify authorities if product enters sewers or public waters.

**Other information** Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : " Disposal considerations" . For further information refer to section 13.

### 7. SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Precautions for safe handling

Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe gas, mist, vapours, spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

##### Hygiene measures

Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Storage conditions

Store in a well-ventilated place. Keep cool. Keep out of reach of children. Keep container tightly closed. Store locked up.

#### 7.3. Specific end use(s)

Antifreeze.

### 8. SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### EU

Regulation	Substance	Type	Value
COMMISSION DIRECTIVE 2000/39/EC	<b>Ethanediol (107-21-1)</b> Ethylene glycol	IOEL TWA	52 mg/m <sup>3</sup>
		IOEL TWA [ppm]	20 ppm
		IOEL STEL	104 mg/m <sup>3</sup>
		IOEL STEL [ppm]	40 ppm
		Notes	Skin

##### United Kingdom

Regulation	Substance	Type	Value
EH40/2005 (Third edition, 2018). HSE	<b>Ethanediol (107-21-1)</b> Ethane-1,2-diol	WEL TWA (OEL TWA) [1]	10 mg/m <sup>3</sup> particulate 52 mg/m <sup>3</sup> vapour
		WEL TWA (OEL TWA) [2]	20 ppm vapour
		WEL STEL (OEL STEL)	104 mg/m <sup>3</sup> vapour
		WEL STEL	40 ppm vapour
		Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)

##### **DNEL: Derived no effect level**

No data available

##### **PNEC: Predicted no effect concentration**

No data available

#### 8.2. Exposure controls

##### Appropriate engineering controls

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. Ensure good ventilation of the work station

<b>Materials for protective clothing</b>	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment		
<b>Individual protection measures, such as personal protective equipment (PPE)</b>			
<b>Eye protection</b>	Safety glasses. EN 166. Wear security glasses which protect from splashes		
<b>Skin protection</b>			
<b>Hand protection</b>	Protective gloves. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN 374.		
<b>Material</b>	<b>Permeation</b>	<b>Thickness (mm)</b>	<b>Comments</b>
Neoprene rubber (HNBR), Nitrile rubber (NBR), Butyl rubber, Viton	6 (> 480 minutes)	0.38	EN ISO 374
<b>Other protective measures</b>	No additional information available.		
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Approved supplied air respirator. Type A - High-boiling (>65 °C) organic compounds		
<b>Skin and body protection</b>	Wear suitable protective clothing, Long sleeved protective clothing		
<b>Thermal hazard protection</b>	No additional information available.		
<b>Environmental exposure controls</b>	Avoid release to the environment.		

## 9. SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear. Liquid.
<b>Colour</b>	orange.
<b>Odour</b>	mild.
<b>Odour threshold</b>	No data available
<b>pH</b>	8.65 @ 20°C
<b>Relative evaporation rate (butylacetate=1)</b>	No data available
<b>Melting point</b>	Not applicable
<b>Freezing point</b>	-18 °C
<b>Boiling point</b>	≥ 175 °C
<b>Flash point</b>	122 °C Closed cup ( Pensky-Martens )
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Vapour pressure</b>	No data available
<b>Relative vapour density at 20 °C</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	1.113 kg/l @ 20°C
<b>Solubility</b>	Miscible.
<b>Log Pow</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Viscosity, dynamic</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidising properties</b>	No data available
<b>Explosive limits</b>	No data available

### 9.2. Other information

<b>VOC (EU)</b>	3.96 %
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## 10. SECTION 10: Stability and reactivity

- 10.1. Reactivity** The product is non-reactive under normal conditions of use, storage and transport.
- 10.2. Chemical stability** Stable under normal conditions.
- 10.3. Possibility of hazardous reactions** No dangerous reactions known under normal conditions of use.
- 10.4. Conditions to avoid** Contact with incompatible materials.
- 10.5. Incompatible materials** Strong acids. Strong oxidizers. Nitrates. Peroxides. Chlorates.
- 10.6. Hazardous decomposition products** During fire, gases hazardous to health may be formed. Aldehydes. Ketones.

## 11. SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

#### Mixture

Name	Method	Type	Exposure route	Value	Unit	Species	Remarks
Antifreeze	(calculated value)	ATE	oral	1720	mg/kg		

#### Substance

Name	Method	Type	Exposure route	Value	Unit	Species	Remarks
Ethanediol (107-21-1)	(acc. CLP 3.1.2)	ATE	oral	500	mg/kg		

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Suspected of damaging the unborn child.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** May cause damage to organs (kidneys) through prolonged or repeated exposure.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12. SECTION 12: Ecological information

### 12.1. Toxicity

**Ecology - general** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### 12.2. Persistence and degradability

No additional information available.

### 12.3. Bioaccumulative potential

#### Ethanediol (107-21-1)

Log Pow	-1.36
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### 12.4. Mobility in soil

No additional information available.

## 12.5. Results of PBT and vPvB assessment

### Antifreeze

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This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

## 12.6. Other adverse effects

No additional information available.

## 13. SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Regional legislation (waste)

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Dispose of in accordance with local regulations.

#### Waste treatment methods

Collect and reclaim or dispose in closed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with licensed collector's sorting instructions.

#### Product/Packaging disposal recommendations

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

#### European List of Waste (LoW) code

15 01 10\*

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

packaging containing residues of or contaminated by dangerous substances

16 01 14\*

antifreeze fluids containing dangerous substances

## 14. SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

Not regulated for transport

## 15. SECTION 15: Regulatory information

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

#### EU-Regulations

##### The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006

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Antifreeze ; Ethanediol ; Sodium 2-ethylhexanoate

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### VOC (EU)

3.96 %

#### Other information, restriction and prohibition regulations

Directive 94/33/EC on the protection of young people at work, as amended. Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended. Directive 92/85/EEC on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding as amended. For details, refer to section 3 and 8.

#### Seveso Information

Not applicable

#### National regulations

No additional information available.

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## 16. SECTION 16: Other information

### Indication of changes

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Section 1 - Section 16.

### Abbreviations and acronyms

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ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGW	Occupational exposure limit value
ATE	Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM	Federal Institute for Materials Research and Testing, Germany
BAT	Maximum permissible concentration of biological working substances.
BCF	Bio-concentration factor.
BLV	Biological limit values
BLV	Biological limit values (BGW, Austria)
BMGV	Biological Monitoring Guidance Value (EH40,UK).
BOD5	Biochemical oxygen demand within 5 days
BOD	Biochemical oxygen demand
bw	Body weight.
calcd.	Calculated
CAS	Chemical Abstract Service.
CEN	European Committee for Standardization
CESIO	European Committee on Organic Surfactants and their Intermediates.
COD	Chemical oxygen demand
CLP	Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CMR	Carcinogenic, Mutagenic or Reproduction Toxic Substances
CSA	Chemical safety assessment
CSR	Chemical Safety Report.
DMEL	Derived Minimum Effect Level.
DNEL	Derived no effect level
EAC	European waste catalogue
EC	European community
EC50	Effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
EN	European norm.
ERC	ERC (Environmental Release category)
EU	European Union
GLP	Good Laboratory Practice.
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.
GW/VL	Occupational exposure limit value.
GW-kw/VL-cd	Occupational exposure limit value - short term.
GW-M/VL-M	Occupational exposure limit value – "Ceiling".
IATA	International Air Transport Association



IBC code	International Bulk Chemical (Code) (International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk).
ICAO	International Civil Aviation Organization
IC50	Inhibition Concentration 50%.
IECSC	Inventory of Existing Chemical Substances in China.
IMDG	International Maritime Dangerous Goods
ISO	International Standards Organization.
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal Concentration 50%.
LCLo	Lowest published lethal concentration.
LD50	Lethal Dose 50%.
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest observable effect concentration.
LOEL	Lowest observable effect level.
LQ	Limited quantities
TRK-Kzw	Threshold limit value - Short-term exposure limit / Technical reference concentration - short-time value, Austria.
MAK-Mow	Maximum allowable workplace concentration – instantaneous value, Austria.
MAK-Tmw, TRK-Tmw	Maximum allowable workplace concentration – daily mean value / Technical standard concentration – daily mean value, Austria.
MAK	Threshold limit values Germany.
MARPOL	International Convention for the Prevention of Pollution from Ships.
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
NOEL	no-observed-effect level
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limits
PBT	Persistent Bioaccumulative Toxic
PC (Chemical product category)	PC (Chemical product category)
PNEC	Predicted No-Effect Concentration
POCP	Photochemical ozone creation potential.
POP	Persistent Organic Pollutants
PPE	Personal protective equipment
Process category	Process category
REACH	Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006 concerning Registration, Evaluation Authorization and Restriction of Chemicals).
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SCL	Specific concentration limit.
STEL	Short-term Exposure Limit
STP	Sewage treatment plant
SU (Sector of use)	SU (Sector of use)
SVHC	Substance of Very High Concern.
TLV	Threshold Limit Value
TRGS	Technical Rules for Hazardous Substances (German Standard).
TWA	Time Weighted Average

UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VbF	Ordinance on Flammable Liquids, Austria
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
WEL-TWA	Workplace Exposure Limit-Long term exposure limit (8-hour TWA(=time weighted average)reference period).
WEL-STEL	Workplace Exposure Limit-Short term exposure limit (15-minute reference period).

**Data sources** REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006..

**Training advice** Normal use of this product shall imply use in accordance with the instructions on the packaging

#### Full text of H- and EUH-statements

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Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4.
Repr. 2	Reproductive toxicity, Category 2.
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2.
H302	Harmful if swallowed..
H361d	Suspected of damaging the unborn child..
H373	May cause damage to organs through prolonged or repeated exposure..

#### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

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Acute Tox. 4 (Oral)	H302	Calculation method
Repr. 2	H361d	Expert judgment
STOT RE 2	H373	Calculation method

*The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.*

## Attachment to the Safety Data Sheet

### Involved Products

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	<b>Part Number</b>	<b>Container size</b>
1	8510373	20 l
2	JLM209722	1 l
3	JLM209723	5 l
4	JLM209724	20 l
5	JLM209725	205 l
6	STC50529	1 l
7	STC50530	5 l