

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
 - **Trade name:** Antifreeze HD 100
 - **Productname (REACH) -**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.
- **Application of the substance / the mixture**

Antifreeze
-
- **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**

Hexeal Chemicals Ltd, Norwich Road,
Great Plumstead, Norwich, Norfolk,
NR13 5FW
 - **Further information obtainable from:**

sales@hexchem.co.uk

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4 H302 Harmful if swallowed.
Repr. 1B H360FD May damage fertility. May damage the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.
 - **Hazard pictograms**

GHS07 GHS08
 - **Signal word** *Danger*
 - **Hazard-determining components of labelling:**

ethanediol
sodium nitrite

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Hazard statements

- H302 Harmful if swallowed.
- H360FD May damage fertility. May damage the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P264 Wash possible exposed body surfaces thoroughly after handling this product.
- P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

- PBT:** Not applicable.
- vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances

Identification number(s) Not applicable.

3.2 Chemical characterisation: Mixtures

Description:

Dangerous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28	ethanediol STOT RE 2, H373; Acute Tox. 4, H302	50-100%
CAS: 12179-04-3 EINECS: 215-540-4 Reg.nr.: 01-2119490790-32	disodium tetraborate pentahydrate Repr. 1B, H360FD	2.5-5%
CAS: 7632-00-0 EINECS: 231-555-9 Reg.nr.: 01-2119471836-27	sodium nitrite Ox. Sol. 2, H272; Acute Tox. 3, H301; Aquatic Acute 1, H400; Eye Irrit. 2, H319	0.1- <1%
SVHC		
12179-04-3	disodium tetraborate pentahydrate	

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation:

- Supply fresh air or oxygen; call for doctor.
- In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact:**
*Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.*
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
*Do not induce vomiting; call for medical help immediately.
Rinse out mouth and then drink plenty of water.*

- **4.2 Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
*Use fire extinguishing methods suitable to surrounding conditions.
Water haze
Alcohol resistant foam
CO2
Fire-extinguishing powder
BC powder
Sand*
- **5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Wear self-contained respiratory protective device.*
- **Additional information** *Cool endangered receptacles with water spray.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
*Keep away from ignition sources.
Wear protective clothing.
Ensure adequate ventilation*
- **6.2 Environmental precautions:**
*Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.*
- **6.3 Methods and material for containment and cleaning up:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.*
- **6.4 Reference to other sections**
*See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.*

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See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from flammable substances.
Store away from water.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Store receptacle in fume cupboard.
- **7.3 Specific end use(s)** No further relevant information available.

* SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

107-21-1 ethanediol

WEL () Short-term value: 104** mg/m³, 40** ppm
Long-term value: 10* 52** mg/m³, 20** ppm
Sk *particulate **vapour

· **DNELs**

107-21-1 ethanediol

Dermal DNEL Long-term - Systemic (consumer) 53 mg/kg bw/day (/)
DNEL Long-term - Systemic (worker) 106 mg/kg bw/day (/)
Inhalative DNEL Long-term - Local (consumer) 7 mg/m³ (/)
DNEL Long-term - Local (worker) 35 mg/m³ (/)

12179-04-3 disodium tetraborate pentahydrate

Oral DNEL Acute - Systemic (consumer) 1.15 mg/kg bw/day (/)
DNEL Long-term - Systemic (consumer) 1.15 mg/kg bw/day (/)
Dermal DNEL Long-term - Systemic (consumer) 231.8 mg/kg bw/day (/)
DNEL Long-term - Systemic (worker) 458.2 mg/kg bw/day (/)
Inhalative DNEL Acute - Local (consumer) 17.04 mg/m³ (/)

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DNEL Acute - local (worker)	17.04 mg/m ³ (/)
DNEL Long-term - Local (consumer)	17.04 mg/m ³ (/)
DNEL Long-term - Local (worker)	17.04 mg/m ³ (/)
DNEL Long-term - Systemic (consumer)	4.9 mg/m ³ (/)
DNEL Long-term - Systemic (worker)	9.8 mg/m ³ (/)

7632-00-0 sodium nitrite

Inhalative DNEL Acute - Systemic (worker)	2 mg/m ³ (/)
DNEL Long-term - Systemic (worker)	2 mg/m ³ (/)

· **PNECs**

107-21-1 ethanediol

PNEC Fresh water	10 mg/l (/)
PNEC Marine water	1 mg/l (/)
PNEC Soil	1.53 mg/kg (/)

12179-04-3 disodium tetraborate pentahydrate

PNEC Fresh water	2.02 mg/l (/)
PNEC Intermittent releases	13.7 mg/l (/)
PNEC Marine water	2.02 mg/l (/)
PNEC STP	10 mg/l (/)
PNEC Soil	5.4 mg/kg (/)

7632-00-0 sodium nitrite

PNEC Fresh water	0.0054 mg/l (/)
PNEC Fresh water sediment	0.0195 mg/kg (/)
PNEC Intermittent releases	0.0054 mg/l (/)
PNEC Marine sediment	0.0223 mg/kg (/)
PNEC Marine water	0.00616 mg/l (/)
PNEC STP	21 mg/l (/)
PNEC Soil	0.000733 mg/kg (/)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· **Respiratory protection:** Not required.

· **Protection of hands:**

Protective gloves

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** *Use protective suit.*

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Blue Blue in UK

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	197 °C

· **Flash point:** 111 °C

· **Auto-ignition temperature:** 398 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	3.2 Vol %
Upper:	53 Vol %

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· Vapour pressure:	<i>Not determined.</i>
· Density at 20 °C:	<i>1.11 g/cm³</i>
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with water at 20 °C:	<i>1 g/l</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Solvent content:	
Organic solvents:	<i>0.0 %</i>
· 9.2 Other information	<i>No further relevant information available.</i>

SECTION 10: Stability and reactivity

- **10.1 Reactivity** *Not determined.*
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **10.3 Possibility of hazardous reactions** *No dangerous reactions known.*
- **10.4 Conditions to avoid** *No further relevant information available.*
- **10.5 Incompatible materials:**
 - Acids*
 - Strong oxidizing agents*
- **10.6 Hazardous decomposition products:** *No dangerous decomposition products known.*

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

- **Acute toxicity**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

107-21-1 ethanediol

Oral LD50 >300 - ≤ 2000 mg/kg (rat)

Dermal LD50 >5000 mg/kg (rabbit)

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12179-04-3 disodium tetraborate pentahydrate

Oral LD50 3200-3400 mg/kg (rat)

Dermal LD50 >2000 mg/kg (rabbit)

Inhalative LC50 >2.0 mg/l (rat)

7632-00-0 sodium nitrite

Oral LD50 180 mg/kg (rat)

- **Primary irritant effect:**
- **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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**
May damage fertility. May damage the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

107-21-1 ethanediol

EC 50 (48 u) >100 mg/l (daphnia magna)

EC 50 (96u) 6500-13000 mg/l (Pseudokirchneriella subcapitata)

LC 50 (96 u) 72860 mg/l (Pimephales promelas)

12179-04-3 disodium tetraborate pentahydrate

EC 50 (24u) 242 mg/l (daphnia magna)

LC 50 88 mg/l (Oncorhynchus mykiss) (24 days)

65 mg/l (Carassius auratus) (7 days)

7632-00-0 sodium nitrite

EC 50 (48 u) 421 mg/l (Protozoa)

15.4 mg/l (daphnia magna) (OECD 202)

LC 50 (48 u) 360 mg/l (Leuciscus idus)

LC 50 (96 u) 0.54-26.3 mg/l (Oncorhynchus mykiss)

NOEC 9.86 mg/l (daphnia)

6.16 mg/l (Ictalarus punctatus)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name	
· ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008 GHS label elements**

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- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
NK	95.0

- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

"The information provided in these documents is based on our present state of knowledge of the product and is given in good faith and to the best of our experience. However, it should not be construed as a technical specification or as guaranteeing specific properties. In no event we will be responsible for damages or effects of any nature whatsoever, either express or implied, resulting from the use of this information. It is the own responsibility of the consignee and the user of the product to comply with all prevailing and applicable laws, regulations and directives. They should also make their own determination as to the suitability of the product for a particular use or application."

· **Relevant phrases**

- H272 May intensify fire; oxidiser.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H360FD May damage fertility. May damage the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.

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· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 2: Oxidizing solids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· *** Data compared to the previous version altered.**

GB