

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture	Cat DEAC Diesel Engine Antifreeze Coolant
Registration number	-
Synonyms	None.
Product code	002585
Issue date	22-September-2016
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Antifreeze / Coolant.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier	ARTECO NV Technologiepark-Zwijnaarde 2 B-9052 Gent-Zwijnaarde Belgium
Telephone	32 (0) 9 293 7320
e-mail	customerservice@arteco-coolants.eu
Product information	Technical Information: +32/(0)9 293 7300

1.4. Emergency telephone number

Transportation emergency	Europe: 0044/(0)18 65 407333 (24h)
Health Emergency	Europe: 0044/(0)18 65 407333 (24h)

General in EU	112 (Available 24 hours a day).
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
Specific target organ toxicity - repeated exposure	Category 2 (kidney)	H373 - May cause damage to organs (kidney) through prolonged or repeated exposure.

Hazard summary	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure. Occupational exposure to the substance or mixture may cause adverse health effects.
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2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Ethylene glycol
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Hazard pictograms



Signal word	Warning
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Hazard statements	H302 Harmful if swallowed.
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H373

May cause damage to organs (kidney) through prolonged or repeated exposure.

Precautionary statements**Prevention**

P102 Keep out of reach of children.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.

Response

P101 If medical advice is needed, have product container or label at hand.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.

Storage

Not assigned.

Disposal

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

Supplemental label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

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

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ethylene glycol	80 - 98	107-21-1 203-473-3	01-2119456816-28-XXXX	-	#
Classification:	Acute Tox. 4;H302, STOT RE 2;H373				
Sodium tetraborate pentahydrate	0.1 - < 3	12179-04-3 215-540-4	01-2119490790-32-XXXX	-	
Classification:	Eye Irrit. 2;H319, Repr. 1B;H360FD				
Sodium nitrite	0.1 - < 1	7632-00-0 231-555-9	01-2119471836-27-XXXX	-	
Classification:	Ox. Sol. 3;H272, Acute Tox. 3;H301, Eye Irrit. 2;H319, Aquatic Acute 1;H400				

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

Composition comments

The full text for all H-statements is displayed in section 16. All concentrations are in percent by weight.

This product contains a bittering agent.

SCL: Specific concentration limit.
 Sodium tetraborate pentahydrate (>= 6.5%)

SECTION 4: First aid measures**General information**

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

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

Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

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

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

SECTION 5: Firefighting measures**General fire hazards**

No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Use water spray to reduce vapours or divert vapour cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Do not breathe mist or vapour. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Antifreeze / Coolant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	STEL	104 mg/m ³	Vapour.
		40 ppm	Vapour.
	TWA	52 mg/m ³	Vapour.
		10 mg/m ³	Particulate.
		20 ppm	Vapour.
Sodium tetraborate pentahydrate (CAS 12179-04-3)	TWA	1 mg/m ³	

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Ethylene glycol (CAS 107-21-1)	STEL	104 mg/m ³

Components	Type	Value	
	TWA	40 ppm 52 mg/m3 20 ppm	
Biological limit values	No biological exposure limits noted for the ingredient(s).		
Recommended monitoring procedures	Follow standard monitoring procedures.		
Derived no effect levels (DNELs)			
General Population			
Components	Value	Assessment factor	Notes
Ethylene glycol (CAS 107-21-1)			
Long-term, Local, Inhalation	7 mg/m3		
Long-term, Systemic, Dermal	53 mg/kg		
Sodium tetraborate pentahydrate (CAS 12179-04-3)			
Long-term, Systemic, Dermal	159.5 mg/kg		
Long-term, Systemic, Inhalation	3.4 mg/m3		
Long-term, Systemic, Oral	0.79 mg/kg		
Short-term, Systemic, Oral	0.79 mg/kg		
Workers			
Components	Value	Assessment factor	Notes
Ethylene glycol (CAS 107-21-1)			
Long-term, Local, Inhalation	35 mg/m3		
Long-term, Systemic, Dermal	106 mg/kg		
Sodium nitrite (CAS 7632-00-0)			
Long-term, Systemic, Inhalation	2 mg/m3		
Short-term, Systemic, Inhalation	2 mg/m3		
Sodium tetraborate pentahydrate (CAS 12179-04-3)			
Long-term, Systemic, Dermal	316.4 mg/kg		
Long-term, Systemic, Inhalation	6.7 mg/m3		
Predicted no effect concentrations (PNECs)			
Components	Value	Assessment factor	Notes
Ethylene glycol (CAS 107-21-1)			
Freshwater	10 mg/l	10	
Intermittent releases	10 mg/l	10	
Marine water	1 mg/l	100	
Sediment (freshwater)	37 mg/kg		
Sediment (marine water)	3.7 mg/kg		
Soil	1.53 mg/kg		
STP	199.5 mg/l	10	
Sodium nitrite (CAS 7632-00-0)			
Freshwater	0.0054 mg/l	100	
Intermittent releases	0.0054 mg/l	100	
Marine water	0.00616 mg/l	1000	
Sediment (freshwater)	0.0195 mg/kg		
Sediment (marine water)	0.0223 mg/kg		
Soil	0.000733 mg/kg		
STP	21 mg/l	10	
Sodium tetraborate pentahydrate (CAS 12179-04-3)			
Freshwater	2.9 mg/l	2	
Intermittent releases	13.7 mg/l	2	
Marine water	2.9 mg/l	2	
Soil	5.7 mg/kg	2	
STP	10 mg/l	1	
Exposure guidelines			
UK EH40 WEL: Skin designation			
Ethylene glycol (CAS 107-21-1)	Can be absorbed through the skin.		

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.
Individual protection measures, such as personal protective equipment	
General information	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eyeface protection	Chemical respirator with organic vapour cartridge and full facepiece.
Skin protection	
- Hand protection	Wear appropriate chemical resistant gloves. Wear suitable gloves tested to EN374. Full contact: Use gloves classified protection index 6 with breakthrough time of 480 minutes. Minimum glove thickness 0.38 mm. Neoprene, butyl rubber, nitrile or Viton gloves are recommended. Suitable gloves can be recommended by the glove supplier.
- Other	Wash hands thoroughly after handling. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapour cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Colour	Purple.
Odour	Mild.
Odour threshold	Not determined.
pH	10.5 (20°C) (Typical)
Melting point/freezing point	Not determined. / -18 °C (-0.4 °F) (Typical)
Initial boiling point and boiling range	180 °C (356 °F) (Estimated)
Flash point	122.0 °C (251.6 °F) Pensky-Martens Closed Cup (Approximate)
Evaporation rate	Not determined.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not determined.
Flammability limit - upper (%)	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.
Solubility(ies)	Miscible.
Partition coefficient (n-octanol/water)	Not determined.
Auto-ignition temperature	Not determined.
Decomposition temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	1.120 kg/l (20 °C) (Typical)
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SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong acids. Strong oxidising agents. Nitrates. Peroxides. Chlorates.
10.6. Hazardous decomposition products	At elevated temperatures: Ketones. Aldehydes.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	In high concentrations, mists/vapours may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Harmful if swallowed. Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, oedema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose for humans is about 100 ml. Inhalation of high levels of vapour or mists for prolonged periods of time may also result in toxic effects.

Symptoms Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema.

11.1. Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test results
Cat DEAC Diesel Engine Antifreeze Coolant (CAS -)		
Acute		
<i>Oral</i>		1610 mg/kg, ATE
Components	Species	Test results
Ethylene glycol (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Mouse	> 3500 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2.5 mg/l, 6 Hours
<i>Oral</i>		
LD50	Cat	1600 mg/kg
Sodium nitrite (CAS 7632-00-0)		
Acute		
<i>Oral</i>		
LD50	Rat	180 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.	
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.	
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	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - repeated exposure	May cause damage to organs (kidney) through prolonged or repeated exposure.	

Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	No data available.

SECTION 12: Ecological information

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

Components	Species		Test results
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
Fish	LC50	Fathead minnow (Pimephales promelas)	72860 mg/l, 96 hours

12.2. Persistence and degradability Expected to be readily biodegradable.

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ethylene glycol (CAS 107-21-1) -1.36

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. 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).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	EWC: 16 01 14
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not established.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Sodium tetraborate pentahydrate (CAS 12179-04-3)

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Sodium tetraborate pentahydrate (CAS 12179-04-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Sodium nitrite (CAS 7632-00-0)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

All components of this product are compliant with the registration requirements of Regulation (EC) 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals, as amended.

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

TWA: Time weighted average.
STEL: Short term exposure limit.
DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
STP: Sewage treatment plant.
LD50: Lethal Dose, 50%.
EC50: Effective Concentration, 50%.
LC50: Lethal Concentration, 50%.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.

References

ECHA CHEM

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

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 by ingestion.
H400 Very toxic to aquatic life.

Training information

Follow training instructions when handling this material.

Disclaimer

ARTECO NV cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.