

SAFETY DATA SHEET

JCB Antifreeze



1. Identification of the material and supplier

Names

Product name : JCB Antifreeze

ADG : -

Company/undertaking identification

Manufacturer / Distributor : JCB Service
World Parts Centre
Waterloo Park
Beamhurst
Staffordshire
England
ST14 5PA

e-mail address of person responsible for this SDS : aftermarketproduct.hotline@jcb.com (Mon to Fri 9.00am to 4.00pm UK time)
Communication in English only

Emergency telephone Number in Australia (with hours of operation) : 1300 522 232 (1300 JCB CEA) (Mon to Fri 0800 to 1630 Local Time) Communications in English only

Uses

Area of application : Consumer applications, Industrial applications, Professional applications.

Material uses : Antifreeze and coolant for engines and industrial equipment

2. Hazards identification

Classification : Xn; R22

Risk phrases : R22- Harmful if swallowed.

Safety phrases : S2- Keep out of the reach of children.
S13- Keep away from food, drink and animal feeding stuffs.
S24/25- Avoid contact with skin and eyes.
S46- If swallowed, seek medical advice immediately and show this container or label.
S56- Dispose of this material and its container at hazardous or special waste collection point.

Statement of hazardous/dangerous nature : HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

Mixture : Yes.

Ingredient name	CAS number	Concentration
ethanediol	107-21-1	95 - 100
disodium tetraborate pentahydrate	12179-04-3	1 - 4.9

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First-aid measures

First-aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4. First-aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Advice to doctor** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
ethanediol	Safe Work Australia (Australia, 8/2005). Absorbed through skin. TWA: 10 mg/m ³ 8 hour(s). Form: Particulate STEL: 104 mg/m ³ 15 minute(s). Form: Vapor TWA: 52 mg/m ³ 8 hour(s). Form: Vapor TWA: 20 ppm 8 hour(s). Form: Vapor STEL: 40 ppm 15 minute(s). Form: Vapor
disodium tetraborate pentahydrate	Safe Work Australia (Australia, 8/2005). TWA: 1 mg/m ³ 8 hour(s).

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Exposure controls

- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

General information

Physical state	: Liquid.
Appearance	: Clear.
Colour	: Green. / Blue.
Odour	: Odourless.

Important health, safety and environmental information

pH	: 7 to 8
Boiling point	: >150°C (>302°F)
Melting point	: <-40°C (<-40°F)
Flash point	: Open cup: >100°C (>212°F) [ASTM D92.]
Flammable limits	: Lower: 3.2% Upper: 28%
Explosion limits	: Lower: 3.2% Upper: 28%
Vapour pressure	: 0.05 kPa (0.37503 mm Hg) [20°C]
Relative density	: 1.1135
Solubility	: Easily soluble in the following materials: cold water, hot water and acetone.
Partition coefficient: n-octanol/water	: -1.9
Viscosity (40°C)	: >20 cSt
Vapour density	: 2.14 [Air = 1]

Other information

Auto-ignition temperature	: >400°C (>752°F)
Flame duration	: Not applicable.

10. Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Materials to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

Inhalation	: No known significant effects or critical hazards.
Ingestion	: Harmful if swallowed.
Skin contact	: No known significant effects or critical hazards.
Eye contact	: No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethanediol	LD50 Oral	Rat	4700 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation

11. Toxicological information

ethanediol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-
disodium tetraborate pentahydrate	Eyes - Severe irritant	Rabbit	-	100 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Product name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
disodium tetraborate pentahydrate	-	-	Repr. Cat. 2; R61	Repr. Cat. 2; R60

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

Target organs : Contains material which may cause damage to the following organs: kidneys, heart, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. Ecological information

Ecotoxicity : This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
ethanediol	Acute LC50 >100000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 >10000000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 8050000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours

Conclusion/Summary : Not available.

Other ecological information

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ethanediol	-	90 % - 21 days	-	-

12. Ecological information

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanediol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
JCB Antifreeze	-1.9	-	low
ethanediol	-1.93	-	low

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADG	Not regulated.	-	-	-		-
ADR	Not regulated.	-	-	-		-
IMDG	Not regulated.	-	-	-		-
IATA	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

Not regulated.

Control of Scheduled Carcinogenic Substances

Not available.

No listed substance

Australia inventory (AICS) : All components are listed or exempted.

EU Classification : Xn; R22

HCS Classification : Irritating material
Target organ effects

16. Other information

History

Date of printing : 28-10-2011.

Date of issue/ Date of revision : 28-10-2011.

Version : 1

▣ Indicates information that has changed from previously issued version.

Disclaimer

16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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