

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

1.1 Product identifier

Chemical nature: Organic mixture
Trade name: Bardi Help Antigel Cocentrat ALU Plus

1.2 Relevant identified uses of the mixture and uses advised against

1.2.1 Relevant identified uses

Identified uses: Antifreeze engine radiator coolant concentrate
Applications: Both industrial and residential uses

1.2.2 Uses advised against: where food or drinking water could mixed in

1.3 Details of the supplier of the safety data sheet:

Samato Kft
H-7960 Sellye, Malom u. 1, Hungary
Phone / Fax: +36 73 480 687
Request SDS of & Responsible for SDS: Samato kft
Péter Sághi Tel: +36 73 480 687, e-mail: info@samato.hu

1.4 Emergency telephone number

Emergency telephone (06-15 h): +36 73 480 687 (CET) on workdays
Health Toxicological Information Service (ETTSZ 1096 Budapest, Nagyvarad ter 2.)
Tel.: +36 1 476 6464, or +36 80 201 199
National Health Toxicological Information Service:

2 SECTION 2: Hazards identification

2.1 Classification of the mixture

2.1.1 Classification of the mixture according to regulation (EC) No 1999/45

Human health hazards: Xn (harmful)



R22 Harmful if swallowed.
S2 Keep out of the reach of children
S46 If swallowed, seek medical advice immediately and show this container or label
If it is for domestic use, there must be used tactile symbol of danger warning.

2.1.2 Classification of the substance according to regulation (EC) No 1272/2008

Hazard Class and Category	Hazard statement
Acute Tox.4	H302 Harmful if swallowed.
STOT RE 2.	H373 May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Precautionary statements - Prevention

- P260i Do not breathe gas/mist/vapours.
- P270 Do not eat, drink or smoke when using this product.
- P264 Wash with soap and water thoroughly after handling

Precautionary statements - Response

- P311 Call a POISON CENTER or doctor/physician.
- P301+P330 IF SWALLOWED: Rinse mouth

Precautionary statements – Storage

Not required.

Precautionary statements - Disposal

P501 Dispose of contents/container in accordance with national regulation.

2.2 Label elements according to regulation (EC) No 1999/45

Xn (harmful)



R22 Harmful if swallowed.

S2 Keep out of the reach of children

S46 If swallowed, seek medical advice immediately and show this container or label

2.3 Other hazards

Harmful if swallowed. If swallowed may cause mental confusion, central nervous system effects and kidney damage. May cause mild eye irritation: transient burning of the eyes, redness, dim-red sight, inflammation of the iris and tissues. In aerosol form may cause blindness. May cause mild skin irritation: transient burning of the skin, redness and swelling. Risk of skin restoration. Inhalation of vapors, sprays or mists generated at elevated temperature may produce slight, burning effects in respiratory track. Vapors may cause narcosis.






The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006

3 SECTION 3: Composition/information on ingredients

3.1 Mixtures

Chemical description: Ethylene glycol with additives, colorific.

Name	Identification numbers	Risk phrase / Hazard statements ((67/548/EC)	Hazard symbol / Hazard classes and cat. (1272/2008/EC)	Conc. %(m/m)
Ethanediol (ethane-1,2-diol) Reach no: 01-2119456816-28	CAS: 107-21-1 EINECS: 203-473-3	Xn, R22	 Acute Tox 4. H302 STOT RE 2. H373	>30%
sodium 2-ethylhexanoate REACH No: 01-2119979083-31-0000	CAS: 19766-89-3 EINECS: 243-283-8	Xn, R 63	 Repr. Kat. 2. H361d	<3%
Tolyltriazole	CAS: 29385-43-1 EINECS: 249-596-6	Xn, R 22,	 Acute Tox 4. H302	<1%
2-Methylimidazole	CAS: 693-98-1 EINECS: 211-765-7	C, R22 - R34	  Acute Tox. 4; Skin Corr. 1B; H302, H314	<1%

The full text of each relevant Hazard classes and cat., R- and H- phrase see in Section 16.

4 SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Never give anything by mouth to an unconscious person, or never induce vomiting
Inhalation	Remove exposed person to fresh air if adverse effects are observed. If breathing has stopped, apply artificial respiration. If breathing is labored, administer oxygen. Get medical attention
skin contact	Wash immediately with soap and water. If symptoms persist (redness, swelling, pain, bladder) get medical attention.
Eye contact:	Flush immediately with plenty of running water for at least 15 minutes, holding the eyelids open. Rest the eyes at least 30 minutes. If symptoms persist (redness, burning pain, dim-red sight, swelling) get medical attention.
Ingestion	Wash out the mouth immediately with water. Give plenty of water. Do not induce vomiting! If vomiting occur spontaneously, lower head below waist to prevent fluid entering the lungs. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No data.

4.3 Indication of any immediate medical attention and special treatment need

If swallowed, immediate medical attention is required: 2 hours, gastro lavage, etc.

5 SECTION 5: Fire-fighting measures

Fire hazards: See also Section 9 - flash point.

5.1 Extinguishing media

Suitable extinguishing media:

 Powder, alcohol resistant foam, water, CO₂.

Unsuitable extinguishing media:

No data.

5.2 Special hazards arising from the mixture

Hazardous combustion products:

On burning hazardous gases and vapours (carbon-dioxide, carbon-monoxide, and other organic compounds) can be formed.

5.3 Advice for fire-fighters

Special protective equipment:

According to the existing fire-fighting regulations. Self-contained breathing apparatus.

Further information:

Cool containers and surroundings exposed to fire with water spray.

Vapours of ethanediol heavier than air and form explosive mixture with air.

6 SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Move people to safe areas. Remove anything that may cause fire.

See SECTION 8 up phase of the applicable individual protection.

Avoid inhalation of vapours and aerosol spray.

Provide adequate ventilation.

6.1.2 For emergency personnel

Wear protective clothing as described in SECTION 8 of this safety data sheet.

Suggested protective equipment Protective gloves (chemical resistant) (EN 374)

6.2 Environmental precautions:

Prevent spills from entering into natural water, soil and drains by containing the liquid.

Notify relevant authority.

6.3 Methods and material for containment and cleaning up

On soil: Exclude source of ignition. Adequate ventilation required in enclosed areas. Contain spilled liquid with sand, earth or other suitable absorbents like VAPEX, EKOSORB, etc. Recover free liquid by pumping. Dispose of according to local regulations. Clean up with large amount of water the contaminated area.

On water: Notify local authorities according to regulations.

6.4 Reference to other sections

Personal precautions: see SECTION 8.

Waste treatment methods: see SECTION 13.

7 SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep general measures applied for normal operations with chemicals and flammable liquids.

Adequate ventilation required.

Keep material away from and open flame. No smoking.

Take precautionary measures against static discharges.

Avoid contact with skin and eyes, inhalation of vapours.

Ensure washing facilities after working hours and before breaks. Take off contaminated clothing, wash with warm water and soap.

Handling temperature: max. 40°C

7.2 Conditions for safe storage, including any incompatibilities

Storage facilities must comply with regulations for storing of chemicals and flammable liquids.

Keep material away from heat, sparks, and open flame. Store in cool, dry, well-ventilated area, in original, tightly closed containers.

Keep out of the reach of children. Keep away from food, drink.

7.3 Specific end use(s)

Coolant concentrate.

8 SECTION 8: Exposure controls / personal protection

Engineering control measures:

Not required.

8.1 Control parameters

EU (2000/39/EC)

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
Ethanediol	WEL	20 ppm(Sk)	52 mg/m ³ (Sk)	40 ppm(Sk)	104 mg/m ³ (Sk)	

WEL = Workplace Exposure Limit

8.2 Personal protection:

Engineering measures	Provide adequate general and local exhaust ventilation.
Respiratory equipment	It is recommended to use respiratory equipment with combination filter, type A2/P2.
Hand protection	For prolonged or repeated skin contact use suitable protective gloves. Butyl rubber gloves are recommended. Neoprene gloves are recommended. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Polyvinyl alcohol gloves are recommended. EN 474 gloves with a protective index of 6 or greater are recommended.
Eye protection	Use approved safety goggles or face shield. EN 166 recommended
Other Protection	Provide eyewash station and safety shower. Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

Environmental exposure controls:

Do not discharge into drains/surface waters/groundwater.

9 SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Colour	deep purple
Odour	mild, sweetish
Change in physical state:	
Crystallization temperature (ASTM D 1177) (Diluted 1:1 with distilled water)	-36 °C
Boiling point (ASTM D 1120)	>160 °C
Others	
Flash point	> 120°C
Ignition point	>400°C (DIN 51794)
Explosion limits: lower/upper:	3,2% / 15,3%
Decomposition temperature	unknown
Oxidizing properties	no data
Vapor pressure	< 1 mbar (20 °C) Method : Calculated by Syracuse
Density at 20 °C	1,12- 1,145 g/cm ³ Method : DIN 51757
Solubility in water	(20 °C) miscible in all proportions
*Alkaline reserve (HCL 0,1 M)	>2 ml
<i>*Reserve alkalinity (RA) is a term used to indicate the amount of alkaline inhibitors present in an antifreeze formulation. It is incorrect to relate a high RA with a high-quality antifreeze. Present state-of-the-art antifreeze formulations contain many new inhibitors which give added protection to certain metals but do not raise the RA number.</i>	
pH value	7-9 (Aqueous solution – 25/100 ml) Method : DIN EN 1262
Octanol/water partition coefficient(log Pow) :	Not applicable
Viscosity (kinematic)	approx. 23 mm ² /s (20 °C)Method : DIN 51562
Bulk density	Not applicable

9.2 **Other information**

No data available

10 SECTION 10: Stability and reactivity

10.1 **Reactivity**

Dangerous reactivity not known.

10.2 **Chemical stability**

No decomposition if stored and handled properly.

10.3 **Possibility of hazardous reactions**

Not known

10.4 **Conditions to avoid**

Direct heat or ignition sources

10.5 **Incompatible materials**

Strong oxidizing agents

10.6 **Hazardous decomposition products**

No dangerous decomposition products are formed under normal conditions

Note: Vapours of ethanediol heavier than air and form explosive mixture with air.

11 SECTION 11: Toxicological information

11.1 **Information on toxicological effects**

Acute toxicity: No data for the product.

Note: Harmful if swallowed.

Dermal: No data for the product

Component: Ethanediol

Oral	LD (human):	1200-1500 mg/kg
Oral (OECD 401)	LD ₅₀ (rat)	5840 mg/kg
	LD ₅₀ (guinea pig)	6610 mg/kg
	LD ₅₀ (mouse)	2780 mg/kg
Dermal (OECD 402)	LD ₅₀ (rabbit)	9530 mg/kg
Note	<p>The main component is ethanediol symptoms of glycol poisoning: breathing disorders, paralysis of central nervous system and in case of severe toxicosis may be fatal.</p> <p>May cause vomiting when ingested. Aspiration into the lungs may cause chemical pneumonitis. May produce central nervous system disorders</p> <p>Absorb on skin.</p> <p>Vapours may cause narcosis.</p>	

Acute toxicity: irritation

Inhalation	not irritant (based on components)
Note	Elevated temperatures, mixing or mechanical action may form mists, which may cause slightly burning effects in nose, throat and lungs
Skin contact	not irritant (based on components)
Note	Prolonged and/or repeated contact may cause slight irritation: transient burning effects, mild local redness on skin and/or swelling. Risk of skin restoration. In case of short term contact is not expected to other unlikely effects.
Eye contact	not irritant (based on components)
Note	May cause slight irritation: transient burning effects, mild redness and/or dim sight Prolonged and/or repeated contact may cause slight irritation: transient burning effects, mild local redness on skin and/or swelling. Risk of skin restoration. In case of short term contact is not expected to other unlikely effects.

Other information, specific effects:	
Germ cell mutagenicity	not known, resp. not mutagen (based on components)
Carcinogenicity	not known, resp. not carcinogen (based on components)
Reproductive toxicity	not known, resp. no reproduction-damaging effect (based on components)
STOT-single exposure	not known
STOT-repeated exposure	not known
Aspiration hazard	not known

12 SECTION 12: Ecological information

12.1 Toxicity:

No data available for the preparation.

Component: Ethanediol

Aquatic organisms	Fish toxicity	LC ₅₀	>100 mg/l (Literature)
	Daphnia toxicity	EC ₅₀	>100 mg/l (Literature)
	Algae toxicity	IC ₅₀	>100 mg/l (Literature)
Soil organisms	Bacteria toxicity		>1000 mg/l (Literature)
Plants	No data		

12.2 Persistence and degradability

Biodegradability: Readily degradable. (Literature)

12.3 Bio accumulative potential

Has low bioaccumulation (ethylene glycol).

12.4 Mobility

Mobility in soil: Large spills to soil can contaminate groundwater
 Mobility in water: No data available.

12.5 Results of PBT and vPvB assessment

Not required.

12.6 Other adverse effects

Biological oxygen demand	<i>Ethanediol</i>	BOD	0,81 g/g (Literature)
Chemical oxygen demand	<i>Ethanediol</i>	COD	1,29 g/g (Literature)
Heavy metal content	None.		
PCT, PCB and other chlorinated hydrocarbons:	None.		
Effects on activated sludge	The product can be disposed in wastewater treatment plant – biological stage of treatment (activation) after dilution in the ratio 1:1000 and after approval of relevant authority and manager of the sewer		
Environmental effects	Do not empty into waterways without disposal		
Water hazard class (German)	WGK 1		

13 SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal:

Wastes of the product or used oil should be treated as hazardous waste. EWC cod: 16 01 14*

Antifreeze fluids containing dangerous substances.

Disposal must be in compliance with national and local regulations.

Recommended waste treatment method: incineration

Packaging disposal:

Containers with product residue should also be treated as hazardous waste according to national and local disposal regulations.

EWC cod: 15 01 10*

Packaging containing residues of or contaminated by dangerous substances.

Disposal must be in compliance with national and local regulations.

Wastewater:

Quality of wastewater emitted to natural water must comply with national and local regulations.

Care should be taken in any case to ensure compliance with EC, national and local regulations. It is the responsibility of the user to know all relevant national and local regulations.

14 SECTION 14: Transport information

General: The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1 UN number

No information required.

14.2 UN proper shipping name

No information required.

14.3 Transport hazard class(es)

No information required.

14.4 Packing group

No information required.

14.5 Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant: No.

14.6 Special precautions for user

No information required.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No information required.

15 SECTION 15: Regulatory information

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

This safety data sheet has been prepared according to Regulation (EC) No 1907/2006 (mod.:453/2010/EC) and to Regulation (EC) 1272/2008.

15.2 Chemical safety assessment.

Not available

16 SECTION 16: Other information

Label elements (according to 1272/2008/EC)

GHS pictograms:



The full text of each relevant Hazard classes and cat., R- and H- phrase in Section 3.

R 22	Harmful if swallowed.
R34	Causes burns
R63	May impair fertility
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H361d	Suspected of damaging the unborn child
H373	May cause damage to organs through prolonged or repeated exposure through prolonged or repeated exposure
Acute Tox.	Acute toxicity Category 4
Repr. kat 2	Reproductive toxicity Category 2
STOT RE 2	Specific target organ toxicity – repeated exposure Category 2
Skin Corr.	1B

Source of data presented in this material safety data sheet:

Test results of this product

Material safety data sheets of product's components

Material Safety Data Sheet according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/ECProduct name: **Bardi Help Antigel Cocentrat ALU Plus****Last rev. date: 04.05.2013, Revision: 4**

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Hungarian and EU lists of dangerous substances

Relevant Hungarian regulation and EU directives

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Revision history			
Section	Subject of change	Date	Version
1-16	Regulatory information's, other corrections	21.08.2006	2
1-16	Revision modification according to 1272/2008/EC	02.03.2010	3
1-16	Revision modification according to 453/2010/EC	04.05.2013	4