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| HEXOL LUBE SRL | MATERIAL SAFETY DATA SHEET According to regulation 1272/2008/EC Hexol ANTIFREEZE ALUPRO G12 DILUTED -4°C | Date: 29.05.2015 |
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1. Identification of the mixture and of the company/undertaking

1.1 Product identifier:

Hexol ANTIFREEZE ALUPRO G12 DILUTED -4°C

1.2 Relevant identified uses of the mixture and uses advised against

Relevant identified uses: antifreeze coolant diluted -4°C Uses advised against: no data

1.3 Details of the supplier of the safety data sheet:

S.C. HEXOL LUBE S.R.L.

Adress: comuna. Paleu, str. Ardealului 1A, județ Bihor

Phone/Fax: 0259 449203/428299

1.4 Emergency telephone number

Phone: 0259-454216; 0259-449203; 8-16h on workdays.

2. Hazards identification

2.1. Classification of the mixture according to regulation (EC) No 1272/2008

Not necessary

2.2 Label elements (EC) No 1272/2008

GHS Pictogram:



GHS08

Signal word:

Hazard statement:

H302 Harmful if swallowed

H373 May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Precautionary statements - Prevention



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P260 Do not breathe gas/mist/vapours.

P270 Do not eat, drink or smoke when using this product.

Precautionary statements - Storage Not required.

Precautionary statements - Disposal

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

Other liabilities for labelling:

Transport classification: see section 14.

2.3 Other hazards

No data available

3. Composition/information on ingredients

3.2 Mixtures

Chemical description: Ethylene glycol with additives, colorific.

Ingredients:

| Name | EINECS number | Cas number | Hazard statements | Conc. % (m/m) |
|---|---------------|------------|-------------------|---------------|
| Ethenediol REACH Registration Nr.: 01-2119456816-28 | 203-473-3 | 107-21-1 | H302 H373 | Max. 15 |
| 2-ethyl-hexanoic acid sodium salt REACH Registration Nr.: 01-2119979083-31-0000 | 243-283-8 | 243-283-8 | H361 | Max. 2 |

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

4. First aid measures

4.1 Description of first aid measures

General information: Never give anything by mouth to an unconscious person, or never



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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 Wash immediately with soap and water. If symptoms persist (redness, swelling, pain, blister) 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, gastrolavage, etc.

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, 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.



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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. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: see Section 8.

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. 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. 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



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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, wellventilated area, in original, tightly closed containers.

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

Unsuitable storage materials are: not recommended using plated or galvanized iron or steel containers.

Storage temperature: min. 0°C

7.3 Specific end use(s)

Coolant diluted, ready to use, protects against freezing up to -4°C.

8. Exposure controls / personal protection

Engineering control measures:

Not required.

8.1 Control parameters:

EU (2000/39/EC)

Ethanediol: Eight hours: 52 mg/m³
 Short-term: 104 mg/m³

8.2 Exposure controls

Personal protection:

Respiratory protection: Under normal use conditions, respirator is not usually required.

Use approved breathing apparatus if vapours, mists and aerosols are generated or recommended exposure limits are exceeded.

Hand protection: Protective gloves (chemical resistant) (EN 374).

Note: Manufacturer's directions for use and the conditions of application should be observed.

Eye protection: Chemical goggles.

Skin protection: Protective clothing, possibly chemical resistant protective boots.

Other special: No data.



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Environmental exposure controls:

Do not discharge into drains/surface waters/groundwater.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:

Physical state:

liquid

Colour (ASTM D 1500):

pink

Odour:

mild, sweetish

Change in physical state:

Crystallisation temperature (ASTM D 1177):

-4°C

(Diluted 1:1 with distilled water)

Boiling point (ASTM D 1120):

≥ 101°C

Others:

Flash point:

> 120°C

Ignition point:

> 200°C

Flammability:

no data

Explosion limits: lower/upper:

3 / 15 Vol/%

Decomposition temperature:

unknown

Oxidizing properties:

no data

Vapour pressure at 20°C:

ca. 2 mbar

Density at 20°C (ASTM D 1122):

1.001 - 1.005 g/cm³

Solubility in water at 20°C:

soluble in all proportion

Solubility in polar solvent

soluble

Thermal decomposition:

no data

n-Octanol/water partition coefficient:

no data

Kinematic viscosity at 20°C (EN ISO 3104):

no data

pH (ASTM D 1287) (Diluted 1:2 with distilled water):

7

9.2 Other information

no data available soluble

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

Strong oxidizing agents.

materials:



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10.6 Hazardous decomposition products: No dangerous decomposition products are formed under normal conditions. Hazardous combustion products: See Section 5.

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

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity: No data for the product. Oral:

Note: Harmful if swallowed. Dermal:

Component:

Ethanediol:

Oral: LD (human): 1200-1500 mg/kg

Oral (OECD 401): LD50 (rat): 5840 mg/kg

LD50 (guinea pig): 6610 mg/kg

LD50 (mouse): 2780 mg/kg

Dermal (OECD 402): 9530 mg/kg

LD50 (rabbit):

Note: 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. May cause vomiting when ingested. Aspiration into the lungs may cause chemical pneumontitis. May produce central nervous system disorders. Absorb on skin. Vapours may cause narcosis.

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.



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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

resorption.

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 resorption.
In case of short term contact is not expected to other unlikely
effects

Respiratory or skin sensitisation: not sensitising (based on components)

Chronic toxicity: If swallowed may cause mental confusion, central nervous system
effects and kidney damage.

Repeted dose toxicity: not known

Other information, specific effects:

Carcinogen effect: not known

Mutagen effect: not known

Reproduction-damaging effect: not known

12. Ecological information

12.1 Toxicity No data available
for the preparation.

Component:

Ethanediol:

Aquatic organisms: LC50

Fish toxicity: >100 (Literature)
mg/l

Daphnia toxicity: EC50 >100 (Literature)
mg/l

Algae toxicity: IC50 >100 (Literature)
mg/l

Soil organisms: Bacteria toxicity: >1000 (Literature)



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mg/l

Plants:

12.2 Persistence and
degradability

Biodegradability:

Readily degradable.
(Literature)12.3 Bioaccumulative
potentialHas 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
effectsBiological oxygen demand: Ethanediol: BOD: 0,81 (Literature)
g/gChemical oxygen demand: Ethanediol: COD: 1,29 (Literature)
g/g

Heavy metal content: None.

PCT, PCB and other
chlorinated None.

hydrocarbons:

Effects on activated
sludge:The product can be disposed in
wastewater treatment
plant - biological stage of treatment
(activation) after
dilution in the ratio1:1000 and after
approval ofrelevant authority and manager of the
sewer.Environmental effects: Do not empty into waterways without
disposal.

Water hazard class WGK 1



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(German):

13. Disposal considerations

13.1 Waste treatment methods

Product disposal:

Wastes of the product or used oil should be treated as hazardous waste.

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.

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. Transport information

Land transport:

Road/ RailwayADR/RID:Not classified.

Waterways:

Inland waterways/ Sea transport ADN/IMDG:Not classified.

Air transport: ICAO / IATA: Not classified.





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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 1272/2008 (mod.: 453/2010/EC).

15.2 Chemical safety assessment.

not available

16. Other information

The information given in this data sheet is based on our best knowledge at the time of publication. The information is related only to this product and is intended to assist its safe transport, handling and use. The given physical and chemical parameters describe the product only for the purpose of safety requirements and therefore should not be construed as guaranteeing any specific property of the product or as being part of a product specification or any contract.

The manufacturer or supplier shall not take responsibility for any damages from the use other than recommended or other misuse of the product. It is the responsibility of the user to keep regulatory precautions and observe recommendations for safe use of the product.

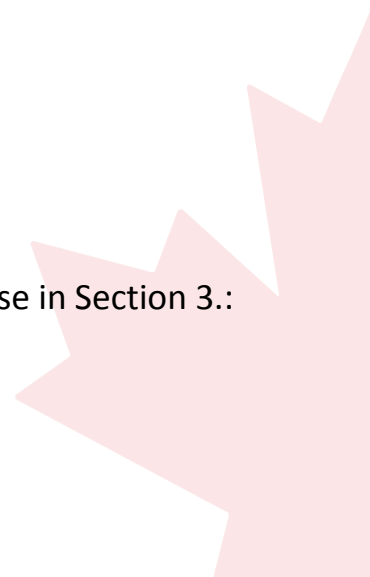
Source of data presented in this material safety data sheet:

Test results of this product

Material safety data sheets of product's components
Romanian and EU lists of dangerous substances
Relevant Romanian regulation and EU directives

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

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.





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H361Suspected of damaging the unborn child.

H373May cause damage to kidneys through prolonged or repeated exposure if swallowed.

H412Harmful to aquatic life with long lasting effects.

