

SAFETY DATA SHEET

HEXID A4 HEAT TRANSFER FLUID

ANNEX R-3

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Conforming to Directive 1907/2006/EC

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name	Hexid A4
Manufacturer	Applied Thermal Control Limited 39 Hayhill Industrial Estate, Barrow upon Soar, Leicestershire, LE12 8LD. United Kingdom. www.app-therm.com
Telephone Number	+44(0)1530 839998
E-Mail	sales@app-therm.com
Emergency Telephone Number	+44(0)1530 839998
Intended/Recommended Use	Heat Transfer Fluid

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture	The product is not classified as dangerous according to Regulation (EC) No. 1272/2008. This mixture is not classified as dangerous according to Directive 1999/45/EC.
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Nature	Water (CAS 7732-18-5), not classified. Propylene glycol (CAS 57-55-6) (REACH 01-2119456809-23) EINECS 200-338-0) not classified. Fluorescein (trace) and biocide (trace) not classified.
Food Grade	

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SECTION 4: FIRST AID MEASURES

General Advice	No special precautions required. Treat symptomatically.
Eye Contact	Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses after a few minutes and continue rinsing. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Ingestion	Rinse mouth with water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam, dry powder or CO2. Alcohol-resistant foam
Unsuitable extinguishing Media	High volume water jet. Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	In fire conditions, toxic decomposition products may be formed (see also section 10). In combustion, emits fumes, smoke, carbon dioxide (CO2) and carbon monoxide (CO). Heating will cause a pressure rise - with severe risk of bursting and explosion, Violent steam generation or eruption may occur upon application of direct water to hot liquids.
Advice for firefighters	In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Keep containers cool by spraying with water if exposed to fire. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Burning fluids may be extinguished by dilution with water

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid contact with skin and eyes. Keep unnecessary and unprotected personnel from entering the area.
Precaution to protect the environment	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
Clean-up procedures	Contain the spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal. Dike the area of spill to prevent spreading and pump liquid to salvage tank. Treat recovered material as described in section 13 Disposal considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Keep container tightly closed. Handle in accordance with good industrial hygiene and safety practice. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto-ignition temperatures possibly resulting in spontaneous combustion.
Conditions for safe storage	Keep only in the original container.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters	Component: Propane-1,2-diol CAS-No. 57-55-6 Other Occupational Exposure Limit Values EH40 WEL, Time Weighted Average (TWA);, Total vapour and particulates.150 ppm, 474 mg/m3 EH40 WEL, Time Weighted Average (TWA);, Particulate.10 mg/m3 ELV (IE), Time Weighted Average (TWA);, Total vapour and particulates.150 ppm, 470 mg/m3 ELV (IE), Time Weighted Average (TWA);, Particulate.10 mg/m3
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SECTION 8 CONTINUED: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls/Appropriate engineering controls	<i>Local exhaust.</i> 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.
Personal protective equipment	<i>Respiratory protection</i> Suitable respiratory protective device Combination filter: A-P2 <i>Filter Type</i> Combined particulates and organic vapour type <i>Hand protection</i> Category short time exposure Break through time> 10 min <i>Protective index</i> Class 1 When prolonged exposure is expected: Break through time> 120 min <i>Protective index</i> Class 4 Observe the information of the glove manufacturers on permeability. Protective gloves should be chosen according to Workplace Safety Assessment. Gloves recommended according to EN 374 (protection against chemicals). <i>Material</i> Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C	Fluorescent green clear liquid
Odour	Almost odourless
Flash Point	Boils without flashing
Ignition Temperature	Not Available
Flammability Limit	Not Available
Oxidising Properties	Not Available
Auto flammability	450°C
Density at 25°C	~1.036 g/cm ³
pH (as is)	7
Boiling Point	102°C
Auto flammability	450°C
Solubility in Water	Miscible
Freezing Point	-21°C
Specific Heat Capacity	3.78kJ/kg °K
Viscosity, Kinetic, at 25°C	3.51mPa.s

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under recommended storage conditions. No dangerous reaction known under conditions of normal use.
Chemical Stability	No decomposition if stored and applied as directed. Stable under recommended storage conditions. Hygroscopic.
Hazardous Reactions	Hazardous polymerisation does not occur.
Conditions to Avoid	Generation of gas from decomposition causes pressure in closed systems. Keep away from direct sunlight. Avoid high temperatures. Avoid temperatures exceeding the decomposition temperature. Avoid UV light.

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SECTION 10 CONTINUED: STABILITY AND REACTIVITY

Materials to Avoid	Strong acids, Strong bases, Strong oxidizing agents.
Hazardous Decomposition Products	Aldehydes, Alcohols, Ether, Organic acids.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Oral	LD50 : > 20000 mg/kg (rat) This product can present a small hazard if large quantities are swallowed.
Inhalation	LC50 : 6.15 mg/l (rat; 4 h; vapour) At ambient temperature the exposure to vapours is minimal due to a low volatility rate. Inhalation may cause irritation to the nose, throat, upper respiratory tract and lungs. No deaths occurred.
Dermal	LD50 : > 20000 mg/kg (rabbit) Prolonged skin contact is unlikely to result in absorption of harmful amounts. Skin irritation by prolonged exposure is unlikely. Repeated contact may cause flaking and softening of skin.
Eyes	Slight irritation is possible. Direct contact with eyes may cause temporary irritation. Corneal injury is unlikely.
Sensitisation	Patch test on human volunteers did not demonstrate sensitisation properties.
CMR Carcinogenicity	Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar substances.
Mutagenicity	No data available.
Reproductive Toxicity	No data available.
Specific Target Organ Toxicity	Single exposure no data available. Repeated exposure no data available.
Other Toxic Properties	Repeated dose toxicity. In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects. Aspiration hazard - Due to its physical properties, the substance does probably not pose any aspiration hazard.

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SECTION 11 CONTINUED: TOXICOLOGICAL INFORMATION

Other relevant toxicity information	Handle in accordance with good industrial hygiene and safety practice.
Experience with human exposure	Health injuries are not known or expected under normal use.

SECTION 12: ECOLOGICAL INFORMATION

Acute toxicity	Fish - LC50 : 40613 mg/l (Oncorhynchus mykiss; 96 h) (static test) Daphnia and other aquatic invertebrates - LC50 : 18340 mg/l (Ceriodaphnia Dubia (water flea); 48 h) (static test) Algae - ErC50 : 19000 mg/l (Pseudokirchneriella subcapitata (green algae); 96 h) (Growth inhibition) Bacteria - NOEC : > 20000 mg/l (Pseudomonas putida; 18 h)Chronic toxicity Aquatic invertebrates - NOEC : 13020 mg/l (Ceriodaphnia Dubia (water flea); 7 d) (semi-static test)
Persistence and degradability	Biodegradability 81 % (anaerobic; Exposure Time: 28 d)(OECD 301 F) Readily biodegradable 96 % (anaerobic; Exposure Time: 64 d)(OECD 306.)
Bioaccumulative potential	BCF - 0.09 estimated Low bioaccumulative potential
Mobility	Estimated Koc < 1, indicating very high soil mobility.
PBT and vPvB assessment	Not a PBT or vPvB substance or mixture
Other adverse effects	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

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SECTION 13: DISPOSAL CONSIDERATION

Waste treatment methods	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
Contaminated packaging	Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning. Packaging that cannot be cleaned are to be disposed of in the same manner as the product.
European Waste Catalogue Number	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: TRANSPORT INFORMATION

Not dangerous goods for ADR, RID, IMDG and IATA.	
EEC Regulations	UNNO - None Class - None Packing Group - None Road & Rail Transport (ADR & RID) - None IMDG - Not Applicable ICOA - None
Export commodity code	39074000
Classification	Polycarbonates
Weight and dimensions	5Kg per 5 litre container. 19 x 14 x 29c,
Manufactured in the United Kingdom	

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SECTION 15: REGULATORY INFORMATION

Classification	Not classified as hazardous to users
CAS No.	57556
Risk or Safety phrases	None
Labelling	None

SECTION 16: OTHER INFORMATION

Key literature references and sources for data taken from supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet. Other information - The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.