SAFETY DATA SHEET
POLYGARD OAT (RED) ANTIFREEZE COOLANT

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

1.1. Product identifier

Product name	POLYGARD OAT (RED) ANTIFREEZE COOLANT
Product number	16200, 16205, 16210, 16220, 16230, 16321, 16219
Internal identification	B16911

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

Identified uses	Antifreeze liquid.
Uses advised against	This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier	Miswa Chemicals Ltd Caswell Road Brackmills Northampton England NN4 7PW T: +44 (0)1604 701111 F: +44 (0)1604 701120 SDSAdmin@miswa.com

1.4. Emergency telephone number

Emergency telephone	Tel.: +44 (0)1604 701111 (Miswa Office Hours Monday - Friday (0900Hrs - 1700Hrs))

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H302 STOT RE 2 - H373
Environmental hazards	Not Classified

2.2. Label elements

Hazard pictograms

Signal word	Warning
Hazard statements	H302 Harmful if swallowed. H373 May cause damage to organs through prolonged or repeated exposure.

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Precautionary statements	P260 Do not breathe vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P314 Get medical advice/ attention if you feel unwell. P330 Rinse mouth. P501 Dispose of contents/ container in accordance with national regulations. P102 Keep out of reach of children.
Contains	ETHANEDIOL

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANEDIOL			60-100%
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX	
Classification Acute Tox. 4 - H302 STOT RE 2 - H373			

DISODIUM DECANEDIOATE		1-5%
CAS number: 17265-14-4	EC number: 241-300-3	
Classification Not Classified		

The full text for all hazard statements is displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Inhalation	Get medical attention. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	Do not induce vomiting. Remove affected person from source of contamination. Get medical attention immediately.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

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

General information	Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
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

Specific hazards	Combustible Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Hazardous combustion products	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

5.3. Advice for firefighters

Protective actions during firefighting	Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Fight advanced or massive fires from safe distance or protected location. Do not use water jet as an extinguisher, as this will spread the fire. Extinguishing waters may present a risk of damage to the environmental, collect and dispose of as hazardous waste, in accordance with local legislation.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. No smoking, sparks, flames or other sources of ignition near spillage. Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions	Avoid from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Contain spilled material if possible. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions	Avoid spilling. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs. Keep only in the original container.

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ETHANEDIOL

Long-term exposure limit (8-hour TWA): WEL 52 mg/m³ 20 ppm
Short-term exposure limit (15-minute): WEL 104 mg/m³ 40 ppm vapour
Sk
Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

DISODIUM DECANEDIOATE

No exposure limit value known.

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through skin.

Ingredient comments	WEL = Workplace Exposure Limits

ETHANEDIOL (CAS: 107-21-1)

DNEL	Industry - Dermal; Long term systemic effects: 106 mg/kg bw/day Industry - Inhalation; Long term local effects: 35 mg/m³ Consumer - Dermal; Long term systemic effects: 53 mg/kg bw/day Consumer - Inhalation; Long term local effects: 7 mg/m³
PNEC	- Fresh water; 10 mg/l - marine water; 1 mg/l - Sediment (Freshwater); 37 mg/kg sediment dw - Intermittent release; 10 mg/l - Soil; 1.53 mg/kg - STP; 199.5 mg/l - Sediment (Marinewater); 3.7 mg/kg sediment dw - Soil; 1.53 mg/kg soil dw

DISODIUM DECANEDIOATE (CAS: 17265-14-4)

DNEL	No DNEL available.
PNEC	No PNEC available.

8.2. Exposure controls

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Protective equipment

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	Use safety glasses (with side shields), consistent with EN 166 or equivalent.
Hand protection	Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
Hygiene measures	Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated.
Respiratory protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use CE approved air-purifying respirator with combination filter type A1P2 minimum.
Environmental exposure controls	Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Reddish. Pink.
Odour	Almost odourless. Characteristic.
pH	pH (diluted solution): 8.0 to 8.6 @ 50% water solution
Initial boiling point and range	>160°C @ 760 mm Hg
Flash point	117°C Closed cup.
Relative density	1.12 to 1.14 @ 20°C

9.2. Other information

POLYGARD OAT (RED) ANTIFREEZE COOLANT

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable at normal ambient temperatures and when used as recommended.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

10.5. Incompatible materials

Materials to avoid	Strong acids. Strong oxidising agents. Strong alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ethers. Alcohols.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	The product is not expected to be toxic to aquatic organisms.

Acute toxicity - oral

Notes (oral LD_{50})	Harmful if swallowed.
ATE oral (mg/kg)	540.31

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
General information	To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.
Inhalation	Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature. Vapour may irritate respiratory system/lungs.
Ingestion	Harmful: possible risk of irreversible effects if swallowed. Headache. Nausea, vomiting. There may be soreness and redness of the mouth and throat.
Skin contact	Prolonged and frequent contact may cause redness and irritation. Not a skin sensitiser.
Eye contact	May cause eye irritation.
Acute and chronic health hazards	May cause damage to kidneys and liver through prolonged or repeated exposure (oral).
Route of exposure	Ingestion.
Medical symptoms	Headache. Nausea, vomiting.

Toxicological information on ingredients.

ETHANEDIOL

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Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	7,712.0
Species	Rat
Notes (oral LD_{50})	Acute oral toxicity is expected to be moderate in humans eventhough animals test results would suggest a low toxicity. Ingestion of approximately 100ml has caused death in humans. Ingestion may cause nausea, vomiting, abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects and kidney failure.
ATE oral (mg/kg)	500.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	3,501.0
Species	Mouse
ATE dermal (mg/kg)	3,501.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} vapours mg/l)	2.6
Species	Rat
Notes (inhalation LC_{50})	At room temperature exposure to vapour is minimal due to low volatility. With good ventilation single exposure is not expected to cause adverse effect. If the product is heated or the working area has poor ventilation, vapour/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.
Skin corrosion/irritation	
Animal data	Not irritating. Rabbit
Serious eye damage/irritation	
Serious eye damage/irritation	Not irritating. Rabbit
Respiratory sensitisation	
Respiratory sensitisation	Guinea pig: Not sensitising.
Skin sensitisation	
Skin sensitisation	- Guinea pig: Not sensitising.
Germ cell mutagenicity	
Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Negative.
Carcinogenicity	
Carcinogenicity	The current toxicological kowledge allows to not classify the product as a carcinogen.
Reproductive toxicity	
Reproductive toxicity - fertility	Ingestion of large amounts has been shown to interfere with reproduction in animals.
Specific target organ toxicity - repeated exposure	

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STOT - repeated exposure	Observations in humans include: Nystagmus (involuntary eye movement). In animals effects have been reported on the following organs: kidneys and liver. NOAEL 150 mg/kg/day, Oral, Rat
Target organs	Kidneys
Inhalation	At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.
Ingestion	Oral toxicity is expected to be moderate in humans due to ethylene glycol even though tests with animals show a lower degree of toxicity. Ingestion of quantities (approximately 65 mL (2 oz.) for diethylene glycol or 100 mL (3 oz.) for ethylene glycol) has caused death in humans. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. For Ethylene glycol: Lethal Dose, Human, adult 100 ml LD50, rat, male and female 7,712 mg/kg.
Skin contact	Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin exposure to large quantities may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts.
Eye contact	May cause temporary eye irritation.
Route of exposure	Ingestion.
Target organs	Kidneys Liver

DISODIUM DECANEDIOATE

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	5,001.0
Species	Rat
ATE oral (mg/kg)	5,001.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	2,001.0
Species	Rat
ATE dermal (mg/kg)	2,001.0
Acute toxicity - inhalation	
Notes (inhalation LC_{50})	Data lacking.
Skin corrosion/irritation	
Animal data	Not irritating.
Serious eye damage/irritation	
Serious eye damage/irritation	Not irritating.

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Respiratory sensitisation	
Respiratory sensitisation	Not sensitising.
Skin sensitisation	
Skin sensitisation	Not sensitising.
Germ cell mutagenicity	
Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Negative.
Carcinogenicity	
Carcinogenicity	Data lacking.
Reproductive toxicity	
Reproductive toxicity - fertility	Data lacking.
Specific target organ toxicity - single exposure	
STOT - single exposure	Data lacking.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	Data lacking.
Aspiration hazard	
Aspiration hazard	No data available.

SECTION 12: Ecological information

Ecotoxicity: The product is not expected to be hazardous to the environment. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity: The product is not expected to be toxic to aquatic organisms.

Ecological information on ingredients.

ETHANEDIOL

Toxicity	Product not classified as dangerous to aquatic organisms.
Acute aquatic toxicity	
Acute toxicity - fish	LC50, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: > 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 96 hours: 6500 - 13000 mg/l, Selenastrum capricornutum
Acute toxicity - microorganisms	EC20, 30 minutes: > 1995 mg/l, Activated sludge
Chronic aquatic toxicity	
Chronic toxicity - fish early life stage	NOEC, 7 days: 15380 mg/l, Pimephales promelas (Fat-head Minnow)

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Chronic toxicity - aquatic invertebrates	NOEC, 7 days: 8590 mg/l, Ceriodaphnia Sp.

DISODIUM DECANEDIOATE

Toxicity	All toxicity values are related to Sebacic Acid.
Acute aquatic toxicity	
Acute toxicity - fish	LC_{80}, 96 hours: >100 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: >100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	NOEC, 72 hours: 3 mg/l, Skeletonema Costatum.
Acute toxicity - microorganisms	EC_{20}, 3 hours: >1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability: The product is biodegradable but it must not be discharged into drains without permission from the authorities. The product is degraded completely by photochemical oxidation.

Ecological information on ingredients.

ETHANEDIOL

Persistence and degradability	The product is biodegradable.
Biodegradation	Water - Degradation (%) 90 - 100%: 10 days Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% biodegradation in OECD test(s) for inherent biodegradability).

DISODIUM DECANEDIOATE

Persistence and degradability	No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: The product does not contain any substances expected to be bioaccumulating.

Ecological information on ingredients.

ETHANEDIOL

Bioaccumulative potential	Not potentially bioaccumulative
Partition coefficient	log Pow: -1.36

DISODIUM DECANEDIOATE

Bioaccumulative potential	No data available on bioaccumulation.

12.4. Mobility in soil

Mobility: The product is soluble in water. Volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Ecological information on ingredients.

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ETHANEDIOL

Mobility	The product is soluble in water. Volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Potential for mobility in soil is very high.
Adsorption/desorption coefficient	Water - Koc: ~ 1 @ °C
Henry's law constant	~ 8.05E-09 atm m3/mol @ 25°C

DISODIUM DECANEDIOATE

Mobility	No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

ETHANEDIOL

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.

DISODIUM DECANEDIOATE

Results of PBT and vPvB assessment	No data available.

12.6. Other adverse effects

Other adverse effects	Not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.
Disposal methods	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Avoid the spillage or runoff entering drains, sewers or watercourses.

SECTION 14: Transport information

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

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

POLYGARD OAT (RED) ANTIFREEZE COOLANT

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

National regulations	Control of Pollution (Special Waste) Regulations 1980 (as amended). The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 720 (as amended) The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 758 (as amended)
EU legislation	Dangerous Substances Directive 67/548/EEC. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	HS&E Manager.
Revision date	17/09/2021
Revision	8
Supersedes date	06/11/2018
SDS status	Approved.
Hazard statements in full	H302 Harmful if swallowed. H373 May cause damage to organs through prolonged or repeated exposure. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

POLYGARD OAT (RED) ANTIFREEZE COOLANT