

# SAFETY DATA SHEET

## TCS MICROPUMPS COOLANT

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

#### 1.1. Product identifier

**Product name** TCS COOLANT  
**Product number** TCS511, TCS607 & TCS608

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

**Identified uses** Coolant  
**Uses advised against** Use only for intended applications.

#### 1.3. Details of the supplier of the safety data sheet

**Supplier**  
TCS Micropumps Ltd  
Highfield  
Faversham  
Kent ME13 0SF  
  
T: +44 1795 539 655  
E: Enquiries@micropumps.co.uk

#### 1.4. Emergency telephone number

**Emergency telephone** TCS Micropumps Ltd +44 1795 539 655

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

**Physical hazards** Not Classified  
**Health hazards** STOT RE 2 - H373  
**Environmental hazards** Not Classified

#### 2.2. Label elements

##### Pictogram



**Signal word** Warning  
**Hazard statements** H373 May cause damage to organs through prolonged or repeated exposure.

# TCS MICROPUMPS COOLANT

**Precautionary statements** P260 Do not breathe vapour/ spray.  
P314 Get medical advice/ attention if you feel unwell.  
P501 Dispose of contents/ container in accordance with national regulations.

**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

<b>ETHANEDIOL</b>			<b>10-30%</b>
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-0000	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>		
Acute Tox. 4 - H302	Xn;R22		
STOT RE 2 - H373			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General information</b>	Not considered to be a significant hazard due to the small quantities used. Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin contact</b>	Rinse with water.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Not considered to be a significant hazard due to the small quantities used.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Nausea, vomiting.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.

## TCS MICROPUMPS COOLANT

**Eye contact** May cause temporary eye irritation.

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

**Notes for the doctor** Treat symptomatically.

## 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. Use fire-extinguishing media suitable for the surrounding fire.

**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** None known. Not considered to be a significant hazard due to the small quantities used.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Oxides of carbon.

### 5.3. Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.

### 6.2. Environmental precautions

**Environmental precautions** Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Place waste in labelled, sealed containers. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 6.4. Reference to other sections

## TCS MICROPUMPS COOLANT

**Reference to other sections** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

**Storage class** Chemical storage.

#### 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/m<sup>3</sup>(Sk)

Short-term exposure limit (15-minute): WEL 104 mg/m<sup>3</sup>(Sk)

WEL = Workplace Exposure Limit

##### **ETHANEDIOL (CAS: 107-21-1)**

<b>DNEL</b>	Workers - Inhalation; Long term local effects: 35 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 106 mg/kg/day General population - Inhalation; Long term local effects: 7 mg/m <sup>3</sup> General population - Dermal; Long term systemic effects: 53 mg/kg/day
<b>PNEC</b>	- Fresh water; 10 mg/l - Marine water; 1 mg/l - Intermittent release; 10 mg/l - STP; 199.5 mg/l - Sediment (Freshwater); 37 mg/kg - Sediment (Marinewater); 3.7 mg/kg - Soil; 1.53 mg/kg

#### 8.2. Exposure controls

## TCS MICROPUMPS COOLANT

### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment 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. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended. Thickness:  $\geq 0.2$  mm The selected gloves should have a breakthrough time of at least 4 hours. Nitrile rubber. Butyl rubber. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

### Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

### Hygiene measures

Provide eyewash station. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

### Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

### Environmental exposure controls

Keep container tightly sealed when not in use. 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.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Blue.
Odour	Odourless.

## TCS MICROPUMPS COOLANT

<b>pH</b>	Not determined.
<b>Melting point</b>	Not determined.
<b>Initial boiling point and range</b>	Not determined.
<b>Flash point</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	Not determined.
<b>Relative density</b>	~ 1.02
<b>Solubility(ies)</b>	Miscible with water.
<b>Partition coefficient</b>	Not determined.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	Not determined.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.

### 9.2. Other information

**Other information** None.

## **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

**Reactivity** The following materials may react with the product: Acids. Alkalis. Oxidising agents.

### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** May generate heat.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat. Freezing.

### 10.5. Incompatible materials

**Materials to avoid** Acids. Alkalis. Oxidising agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended.

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

## TCS MICROPUMPS COOLANT

**ATE oral (mg/kg)** 4,504.5

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met.

### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

### **IARC carcinogenicity**

None of the ingredients are listed or exempt.

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

### **Reproductive toxicity - development**

Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** STOT RE 2 - H373 May cause damage to organs through prolonged or repeated exposure.

### Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

### **General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

### **Inhalation**

Prolonged inhalation of high concentrations may damage respiratory system.

### **Ingestion**

Gastrointestinal symptoms, including upset stomach. Nausea, vomiting.

### **Skin contact**

Prolonged contact may cause dryness of the skin.

### **Eye contact**

May cause temporary eye irritation.

### **Route of entry**

Ingestion Inhalation Skin and/or eye contact

### **Target organs**

No specific target organs known.

## ETHANEDIOL

## TCS MICROPUMPS COOLANT

### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 5,000.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 7712 (30% sol) mg/kg, Oral, Rat

**ATE oral (mg/kg)** 500.0

### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 3,500.0

**Species** Mouse

**ATE dermal (mg/kg)** 3,500.0

### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC50 > 2.5 mg/L in air for 6 hours , Inhalation, Rat

**Inhalation** Irritating to respiratory system.

**Ingestion** Harmful if swallowed.

**Skin contact** Irritating to skin. May be absorbed through the skin.

**Eye contact** Irritating to eyes.

## SECTION 12: Ecological Information

**Ecotoxicity** Not considered to be a significant hazard due to the small quantities used.

### ETHANEDIOL

**Ecotoxicity** Low acute toxicity to aquatic organisms. Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal.

#### 12.1. Toxicity

**Toxicity** Based on available data the classification criteria are not met.

### ETHANEDIOL

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 13900 - 57600 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 96 hours: 6500 - 13000 mg/l, Selenastrum capricornutum

**Chronic toxicity - fish early life stage** , 30 days: 2629 (Calculated) mg/l,

**Chronic toxicity - aquatic invertebrates** , 16 days: 690 (Calculated) mg/l, Daphnia magna



## TCS MICROPUMPS COOLANT

### 12.2. Persistence and degradability

**Persistence and degradability** The product is expected to be biodegradable.

#### ETHANEDIOL

**Persistence and degradability** The substance is readily biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Bioaccumulation is unlikely.

**Partition coefficient** Not determined.

#### ETHANEDIOL

**Bioaccumulative potential** Low bioaccumulation potential.

**Partition coefficient** log Kow: -1.36

### 12.4. Mobility in soil

**Mobility** The product is water-soluble and may spread in water systems. The product is non-volatile.

#### ETHANEDIOL

**Mobility** The product is miscible with water and may spread in water systems.

**Adsorption/desorption coefficient** Water - : koc = 1 @ °C

**Henry's law constant** 0.133 Pa m<sup>3</sup>/mol @ 25°C

### 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.

#### ETHANEDIOL

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

### 12.6. Other adverse effects

**Other adverse effects** None known.

#### ETHANEDIOL

**Other adverse effects** Will affect drinking water supplies.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

## TCS MICROPUMPS COOLANT

**General information** The generation of waste should be minimised or avoided wherever possible. Reuse or recycle

products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

#### **Disposal methods**

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible.

### **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)**

Not classified.

#### **Transport labels**

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**

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

#### **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**

Health and Safety at Work etc. Act 1974 (as amended).  
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].  
EH40/2005 Workplace exposure limits.

# TCS MICROPUMPS COOLANT

**EU legislation** 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).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.  
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).

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## Inventories

### EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

## SECTION 16: Other information

**Abbreviations and acronyms used in the safety data sheet** ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

IATA: International Air Transport Association.

ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

CAS: Chemical Abstracts Service.

ATE: Acute Toxicity Estimate.

LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.

LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).

EC<sub>50</sub>: 50% of maximal Effective Concentration.

PBT: Persistent, Bioaccumulative and Toxic substance.

vPvB: Very Persistent and Very Bioaccumulative.

**Classification abbreviations and acronyms** STOT RE = Specific target organ toxicity-repeated exposure

**Key literature references and sources for data** Source: European Chemicals Agency, <http://echa.europa.eu/>

**Classification procedures according to Regulation (EC) 1272/2008** STOT RE 2 - H373: : Calculation method.

**Training advice** Read and follow manufacturer's recommendations. Only trained personnel should use this material.

**Revision date** 06/03/2018

**Revision** 5

**SDS number** DS08

**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 through prolonged or repeated exposure if swallowed.

## TCS MICROPUMPS COOLANT

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.