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

1.1. Product identifier

Trade name	Komatsu OCE_EN

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

Use	Antifreeze.

1.3. Details of the supplier of the safety data sheet

SDS created by	Intersolia Sweden AB
Supplier	Komatsu Forest AB
Street address	Box 7124 907 04 Umeå
Telephone	+46 90 70 93 53
Contact person(s)	Robert Lindmark
Email	robert.lindmark@komatsuforest.com
Emergency no.	+46 90-70 95 11
Email	robert.lindmark@komatsuforest.com

1.4. Emergency telephone number

Emergency phone number	Alarm 112; NHS 111

Other

Contact person: Robert Lindmark

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification	Acute toxicity, oral, hazard category 4
Hazard statements	H302
Description	For the complete meaning of H phrases mentioned in this section, see section 16.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Pictogram	
Signal word	Warning
Hazard statements	H302 Harmful if swallowed.

Precaution statements	P102 Keep out of reach of children. P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. P501 Dispose of contents/container to approved waste disposal.

2.3. Other hazards

Not applicable

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	***CAS No.*** ***EC No.*** ***REACH No.*** ***Index-number***	***Concentration***	***Classification***	***H-phrase***
Monoethene glycol	107-21-1 203-473-3 - -	60 - 90%	Acute Tox. 4 - oral	H302
Glycerine	56-81-5 200-289-5 - -	5 - 30%	-	-
Potassium hydroxide	1310-58-3 215-181-3 01-2119487136-33- 019-002-00-8	<0,5%	Skin Corr. 1A, Acute Tox. 4 - oral	H302, H314
Tolytriazol	29385-43-1 249-596-6 - -	<0,1%	-	-

Substance additional information	This product contains: Bitrex For the complete meaning of H phrases mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Fresh air and rest. Call a physician if symptoms occur.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician if symptoms occur.
Ingestion	Do not induce vomiting. If the injured person is fully conscious, give him/her a couple of glasses of milk or water immediately. Contact a doctor if a large amount has been ingested.
Information for doctors	Treat symptomatically.

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

Skin contact	Slight irritation possible.
Eye contact	Slight irritation possible.
Ingestion	Ingestion can result in disorientation, dizziness, nausea, stomach pains, muscle weakness and unconsciousness.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	water spray, dry powder, carbon dioxide (CO2) or foam.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire may produce hazardous combustion products such as carbon dioxide and carbon monoxide. Partial combustion forms carbon monoxide, soot, aldehydes and ketones.

5.3. Advice for firefighters

Special protective equipment for fire-fighters	In the event of fire, wear self contained breathing apparatus. Wear full protective clothing.

Other

Containers in the vicinity of fire should be moved immediately or cooled with water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use protective equipment as specified in section 8 of SDS. Ensure good ventilation.

6.2. Environmental precautions

Prevent discharges to watercourses, waste water or the ground. In the event of major discharges into water, contact the waterworks or sewage works.

6.3. Methods and material for containment and cleaning up

Absorb in inert material (vermiculite, dry sand or soil) and collect. Collect in a suitable container that is approved for this purpose. Collected material constitutes hazardous waste. In the event of major spillages, contact the emergency services.

6.4. Reference to other sections

For personal protection see section 8 and for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions	Use protective equipment as specified in section 8 of SDS. Ensure good ventilation. Ensure that eyewash stations and safety showers are close to the workstation location.
General hygiene	Ensure good industrial hygiene.

7.2. Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Avoid heat, flames and other sources of ignition. Keep away from children.

7.3. Specific end use(s)

Not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

Predicted No Effect Concentration (PNEC):
Fresh water: 10 mg/l
Salt water: 1 mg/l
Freshwater sediment: 20,9 mg/kg
Marine water sediment: 3,7 mg/kg
Soil: 1,53 mg/kg
Treatment plants: 199,5 mg/l

Derived No Effect Level (DNEL):
Workers: Long-term exposure – systematic effects, inhalation: 35 mg/m3
Workers: Long-term exposure –systematic effects, dermal: 106 mg/kg
Consumers: Long-term exposure – systematic effects, inhalation: 7 mg/m3
Consumers: Long-term exposure –systematic effects, dermal: 53 mg/kg

National occupational exposure limits

Ingredient	*CAS no. EC No.*	*Exposure limit mg/m3-ppm*		*Short-term exposure limit mg/m3-ppm*		*Remark*	*Source*	*Year*
Monoethene glycol	107-21-1 203-473-3	10	-	-	-	particulate	EH40/2005 Workplace exposure limits	-
Monoethene glycol	107-21-1 203-473-3	52	20	104	40	vapour	EH40/2005 Workplace exposure limits	-
Potassium hydroxide	1310-58-3 215-181-3	-	-	2	-	-	EH40/2005 Workplace exposure limits	-

8.2. Exposure controls

Technical precaution measures

Ensure good ventilation/extraction at the workplace. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye / face protection

Wear protective goggles if there is a risk of direct contact or splashes.

Safety gloves

Wear suitable protective gloves where there is a risk of skin contact. Wear protective gloves made of
Viton (R) (Chemical protection: > 8h)
Butyl rubber (Chemical protection: > 4h)
nitrile rubber (Chemical protection: > 4h)
Neoprene (Chemical protection: > 4h) PVC (Chemical protection: 1-4h)

Other skin protection

Wear suitable protective clothing.

Respiratory protection

Wear breathing protection with a type A filter (brown) in the event of insufficient ventilation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance

Physical state: viscous liquid
Colour: Blue

b) Odour

slight

c) Odour treshold

Not applicable

d) pH value	8 - 9
e) Melting point / freezing point	ca - 18 °C (33 vol-%), ca -37 °C (50 vol-%) ° C
f) Initial boiling point and boiling range	170 - 200 ° C
g) Flash point	> 120 °C ° C
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) Upper / lower flammability or explosive limits	Not applicable
k) Vapour pressure	> 0.1 kPa (20 °C)
l) Vapour density	Not applicable
m) Relative density	ca 1.150 g/cm3 (15 °C)
n) Solubility	Not applicable
o) Partition coefficient: n-octanol / water	-0,3
p) Auto-ignition temperature	410 ° C
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable
Boiling point	197 ° C
Density	1120 kg/m3
Explosion limits	3 - 15 %
Relative vapour density	2,6
Solubility in water	The product is soluble in water.

9.2. Other information

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable at normal conditions

10.2. Chemical stability

Chemical stability	Stable under normal usage and storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal use.

10.4. Conditions to avoid

Not applicable

10.5. Incompatible materials

Incompatible materials	strong oxidising agents, reducing agents, acid chlorides and acid anhydrides.

10.6. Hazardous decomposition products

Hazardous decomposition products	Fire may produce hazardous combustion products such as carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Ingestion can result in disorientation, dizziness, nausea, stomach pains, muscle weakness and unconsciousness. May cause kidney damage and possibly liver and brain damage. Fatal dose when ingested approx. 1.5 g/kg body weight. Fatal dose approx. 50-100 g for adults, proportionally lower for children.
Skin corrosion/irritation	Not applicable
Serious eye damage/irritation	Not applicable
Respiratory/skin sensitization	None of the substances listed in section 3 is classified as a sensitizing.
Germ cell mutagenicity	Not applicable
Genotoxicity	Not applicable
Carcinogenicity	None of the substances listed in section 3 is classified as a carcinogenic.
Reproductive toxicity	None of the substances listed in section 3 is classified as toxic to reproduction.
STOT-single exposure	Not applicable
STOT-repeated exposure	Not applicable
Aspiration hazard	Not applicable
LD50 Oral	Ethylene glycol LD50: 4,7 mg/kg (rat). Denatonium benzoate LD50: 854 mg/kg (rat).
LD50 Dermal	Ethylene glycol LD50: 9530 mg/kg (rabbit).

SECTION 12: Ecological information

12.1. Toxicity

Toxicity	The product is not classified as dangerous for the environment.
Acute fish toxicity	LC50: 45 760 mg/l (Onchorhynchus mykiss) Exposure time: 96 h
Acute algae toxicity	IC50: 19 000 mg/l Exposure time: 72 h
Acute crustacean toxicity	EC50: 34 400 mg/l (Daphnia magna) Exposure time: 48 h

12.2. Persistence and degradability

Persistence and degradability	BOD5/COD: 0,67

12.3. Bioaccumulative potential

Bioaccumulative potential	BCF: 3 LogPow: -0,30

12.4. Mobility in soil

Not applicable

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance does not fullfil the PBT/vPvB- criteria of the REACH-regulations, Annex XIII. .

12.6. Other adverse effects

Not applicable

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations	Dispose of any product, residue or packing material according to national and local regulations. Do not dispose together with domestic waste.

Other

Waste code (EWC)	Waste code (EWC): 16 01 14 - antifreeze fluids containing dangerous substances The waste code is a recommendation. In the event of non-compliant handling, the end user is personally responsible for a suitable waste code.

SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

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

Not applicable

SECTION 15: Regulatory information

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

EU regulations	Regulation (EC) No 1907/2006 of the European Parliament and of the Council, REACH. Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Annex II SDS. European Parliament and Council Regulation (EC) No 1272/2008, CLP.
National regulations	EH40/2005 Workplace exposure limits. . .

15.2. Chemical safety assessment

Chemical safety assessment	No chemical safety assessment has been performed.

SECTION 16: Other information

Changes to previous revision	Changes are made in the following sections: 1,8.
Abbreviations	PBT: Persistent, Bioaccumulative and Toxic. vPvB: very Persistent and very Bioaccumulative.
References to key literature and data sources	Regulation (EC) No 1907/2006 of the European Parliament and of the Council, REACH. Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Annex II SDS. European Parliament and Council Regulation (EC) No 1272/2008, CLP. EH40/2005 Workplace exposure limits. http://prevent.se C&L Inventory Database
Phrase meaning	Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4 Skin Corr. 1A - Skin corrosion, hazard category 1A H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage.

Other

Additional information	Read this Safety Data Sheet carefully and become aware of hazards implied and the Safety information
Manufacturer's notes	All information in this safety data sheet is based on our current knowledge.