

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name : KOSTerm Heavy Duty TEG Heat Transfer Fluid

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

Use of the substance/mixture : Additive.
Restrictions on use : No additional information available

1.3. Details of the supplier of the safety data sheet

KOST® USA, Inc.
1000 Tennessee Ave.
Cincinnati, 45229 - USA
T 1-800-661-9391 - F 1-513-492-5555
sales@kostusa.com - www.kostusa.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300
CHEMTREC (24 HOURS)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Specific target organ toxicity — Repeated exposure, Category 2 H373

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Warning
Contains : Diethylene glycol
Hazard statements (GHS-US) : H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS-US) : P260 - Do not breathe mist, spray, vapours
P314 - Get medical advice/attention if you feel unwell
P501 - Dispose of contents/container to Collection point

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

KOSTherm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS-US classification
Diethylene glycol	(CAS-No.) 111-46-6	1 – 5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Wash with plenty of soap and water.
- First-aid measures after eye contact : If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Get immediate medical advice/attention.

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

- Symptoms/effects : May cause damage to organs through prolonged or repeated exposure.
- Symptoms/effects after skin contact : May cause moderate irritation.
- Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.

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

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : No particular fire or explosion hazard.
- Reactivity : No dangerous reactions known.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable gloves.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Wear suitable gloves.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Do not discharge into drains or the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Absorb and/or contain spill with inert material, then place in suitable container.
- Methods for cleaning up : Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

KOSTherm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing vapours. Do not get in eyes, on skin, or on clothing.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not store near food, foodstuffs, drugs, or potable water supplies. Store in a dry, cool and well-ventilated place.
Incompatible products : Strong oxidizers. Strong bases. Strong acids.
Incompatible materials : Heat sources. Sources of ignition.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethylene glycol (111-46-6)

Not applicable

8.2. Exposure controls

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing. Provide local exhaust ventilation of closed transfer systems to minimize exposures.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : In case of repeated or prolonged contact wear gloves.
Eye protection : In case of splashing or aerosol production: protective goggles.
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Wear appropriate mask.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Free & clear.
Colour : Colourless
Odour : odourless
Odour threshold : No data available
pH : 9.3 - 10 (50%)
Melting point : No data available
Freezing point : -7 °C
Boiling point : > 280 °C
Flash point : 166 - 171 °C
Relative evaporation rate (butylacetate=1) : No data available
Flammability (solid, gas) : No data available
Explosive limits : No data available
Explosive properties : No data available
Oxidising properties : No data available
Vapour pressure : No data available
Relative density : 1.129 @ 20 °C
Relative vapour density at 20 °C : No data available
Solubility : Soluble in water.
Log Pow : No data available
Auto-ignition temperature : 323 °C
Decomposition temperature : No data available
Viscosity : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available

9.2. Other information

No additional information available

KOSTherm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Aldehydes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Ingestion; Skin and eye contact

Acute toxicity : Not classified

Diethylene glycol (111-46-6)	
LD50 dermal rat	13300 mg/kg
LC50 inhalation rat (mg/l)	> 4.6 mg/l/4h
ATE US (oral)	500.000 mg/kg bodyweight
ATE US (dermal)	13300.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/effects after skin contact : May cause moderate irritation.

Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.

SECTION 12: Ecological information

12.1. Toxicity

Diethylene glycol (111-46-6)	
LC50 fish 1	75200 mg/l
EC50 Daphnia 1	> 10000 mg/l

12.2. Persistence and degradability

KOSTherm Heavy Duty TEG Heat Transfer Fluid	
Persistence and degradability	Not established.

Diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

KOSTherm Heavy Duty TEG Heat Transfer Fluid	
Bioaccumulative potential	Not established.

KOSTherm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Diethylene glycol (111-46-6)	
Bioconcentration factor (BCF REACH)	100
Log Pow	-1.98
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

KOSTherm Heavy Duty TEG Heat Transfer Fluid	
Ecology - soil	Not established.

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

Other information : No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : RQ, UN3082 Environmentally hazardous substances, liquid, n.o.s. (ethylene glycol), 9, III

UN-No.(DOT) : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
ethylene glycol

Transport hazard class(es) (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Symbols : G - Identifies PSN requiring a technical name

Other information : RQ >= 509,683 lbs.

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Diethylene glycol (111-46-6)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

EU-Regulations

KOSTerm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Diethylene glycol (111-46-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Diethylene glycol (111-46-6)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on Taiwan National Chemical Inventory
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

KOSTerm Heavy Duty TEG Heat Transfer Fluid

State or local regulations	California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm
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SECTION 16: Other information

Disclaimer:

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End-use applications **NOT** supported by KOST® USA, Inc. for monoethylene glycol, diethylene glycol and triethylene glycol. These limitations include products restricted by law, applications in which may raise unacceptable risks, and other applications which KOST® USA, Inc. has decided not to, including minimizing unnecessary risk and liabilities to the company. KOST® USA, Inc. does not knowingly market these products into these non-supported applications. This list is not all-inclusive, and KOST® USA, Inc. reserves the right to modify the same at any time.

- The use of production of tobacco and in the manufacture of tobacco products (including but not limited to additives, humectants, filters, inks, and paper)
- The use for the generation of artificial smoke / theatrical fogs / mist. This includes applications such as artificial / e-cigarettes.
- The use as ingredient in fuel for warming foods (Sterno™-like application) or in fuel for heating an enclosed space where human exposure is possible.
- The use in fire extinguishing sprinkler systems.
- The use in the manufacture of munitions.
- The use in the production of de-icers for use on roadways, sidewalks and in aircraft lavatories.
- The use as a component of heat transfer fluids in systems where the heat transfer fluids could infiltrate (i.e., via an exchanger leak, backflow prevention failure, or other means) a potable water.
- The use as a non-reacted component in a formulation for direct internal or external human / animal contact, including, but not limited to ingestion, inhalation, and skin contact and in medical / veterinary devices and medical / veterinary. Examples of some such applications are uses as a direct component in foods, beverages, pharmaceuticals, cosmetics, personal care products or children's products.
- The use for consumer or hospital usage for deodorizing or air "purifying" purposes by spraying as an aerosol.
- The use as a non-reacted component in adhesives, plasticizers, and softening agents for packaging having direct contact with food or beverage.
- The use as a non-reacted component in the formulation of glues, pastes, ice / heat packs or other items where the potential for significant human contact and/or ingestion exists (including but not limited to children's school glue/paste or arts/craft glue/paste, toys, children products).
- The use as a fluid for pressure testing piping.

For more information contact your KOST® USA, Inc. representative.

Revision date : 05/01/2017

KOSTherm Heavy Duty TEG Heat Transfer Fluid

Safety Data Sheet

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- Data sources : ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>.
ACGIH 2000.
European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>.
Kristen Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.
OSHA 29CFR 1910.1200 Hazard Communication Standard.
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.
- Other information : None.

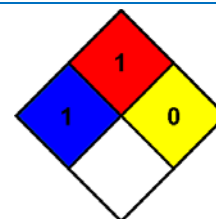
Full text of H-statements:

H302	Harmful if swallowed
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Indication of changes:

General information.

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