

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Printing date 01.12.2015

Revision: 01.12.2015

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

- **1.1 Product identifier**
- **Trade name:** Mokon GTF
- **Article number:** No other identifiers
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture:** Heat transfer fluid
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Mokon
2150 Elmwood Ave
Buffalo, NY 14207
Phone: 716-876-9951
Fax: 716-874-8048
- **1.4 Emergency telephone number:**
ChemTel Inc.
+1 (800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).



Acute Tox. 4 H302 Harmful if swallowed.

- **Additional information:** There are no other hazards not otherwise classified that have been identified.

2.2 Label elements

- **Labelling according to Regulation (EC) No 1272/2008**
The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**
ethanediol
- **Hazard statements**
H302 Harmful if swallowed.

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· **Precautionary statements**

- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 107-21-1	ethanediol	⚠ Acute Tox. 4, H302	50-100%
EINECS: 203-473-3			

· **Additional information:**

For the listed ingredient(s), the identity and exact percentages are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Rinse with warm water.
If skin irritation continues, consult a doctor.

· **After eye contact:**

Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

Cramp
Nausea
Thirst
Dizziness
Acidosis
Disorientation

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- **Hazards**
Danger of circulatory collapse.
Danger of disturbed cardiac rhythm.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Contains ethylene glycol. Consult literature for specific antidotes.
Monitor circulation, possible shock treatment.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Eliminate all ignition sources if safe to do so.
Use large quantities of foam as it is partially destroyed by the product.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Particular danger of slipping on leaked/spilled product.
Keep away from ignition sources.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Dilute with plenty of water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Protect from heat.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Protect from humidity and water.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with oxidising and acidic materials.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.
- **8.1 Control parameters**

Ingredients with limit values that require monitoring at the workplace:

107-21-1 ethanediol

IOELV (EU)	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin
TLV (USA)	Short-term value: NIC-127* mg/m ³ Long-term value: NIC-10** NIC-63.5* mg/m ³ , NIC-25* ppm Ceiling limit: (100) mg/m ³ (H); *inh. fraction + vapor, P:**inh. fraction, H
EL (Canada)	Short-term value: 20** mg/m ³ Long-term value: 10** mg/m ³ Ceiling limit: 100* mg/m ³ , 50*** ppm *Aerosol; **Particulate; ***Vapour
EV (Canada)	Ceiling limit: 100 mg/m ³

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

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- **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves** Rubber gloves
- **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No further relevant information available.
- **Risk management measures** See Section 7 for additional information.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· Change in condition

· Melting point/Melting range:	-12,4 °C (10 °F)
· Boiling point/Boiling range:	163 °C (325 °F)

· **Flash point:** 111 °C (232 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto/Self-ignition temperature:** 410 °C (770 °F)

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

· **Lower:** 3,2 Vol %

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Upper:	53 Vol %
· Vapour pressure at 20 °C (68 °F):	2,2 mmHg
· Density at 16 °C (61 °F):	1,13 g/cm ³ (9,43 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong acids and oxidising agents.
- **10.4 Conditions to avoid**
Store away from oxidising agents.
Keep ignition sources away - Do not smoke.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Slight irritant effect on eyes.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:** Toxic and/or corrosive effects may be delayed up to 48 hours.
- **Repeated dose toxicity:** May cause damage to organs through prolonged or repeated exposure.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

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- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** The material is harmful to the environment.
- **12.2 Persistence and degradability** The product is biodegradable after prolonged adaptation.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
This statement was deduced from products with a similar structure or composition.
Avoid transfer into the environment.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Can be reused after reprocessing.
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN3082

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<ul style="list-style-type: none"> · 14.2 UN proper shipping name · DOT · ADR · IMDG · IATA 	Environmentally hazardous substances, liquid, n.o.s. (Ethylene Glycol) 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ethylene Glycol) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ethylene Glycol) Environmentally hazardous substance, liquid, n.o.s. (Ethylene Glycol)
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<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · DOT, ADR, IMDG 	9 Miscellaneous dangerous substances and articles. 9
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<ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles. 9
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· IATA



<ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles. 9
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<ul style="list-style-type: none"> · 14.4 Packing group · DOT, ADR, IMDG, IATA 	III
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<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: · Special marking (IATA): 	No Symbol (fish and tree)
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<ul style="list-style-type: none"> · 14.6 Special precautions for user · EMS Number: 	Warning: Miscellaneous dangerous substances and articles. F-A,S-F
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<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
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<ul style="list-style-type: none"> · Transport/Additional information: 	Not regulated when carried in single or combination packaging containing a net quantity of 5L or less for liquids or 5 kg or less for solids per the following: DOT: 171.4(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197
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<ul style="list-style-type: none"> · DOT 	Transport labeling is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum
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- | | |
|---------------------------------|--|
| · | capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid. |
| · Remarks: | Reportable Quantity at 5263 lb (2387 kg) |
| · UN "Model Regulation": | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ethylene Glycol), 9, III |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

107-21-1 | ethanediol

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

107-21-1 | ethanediol

· **Carcinogenic Categories**· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **Canada**· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

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· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients are listed.

· Canadian Ingredient Disclosure list (limit 1%)

107-21-1	ethanediol
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· Other regulations, limitations and prohibitive regulations
· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients are listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H302 Harmful if swallowed.

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 Acute Tox. 4: Acute toxicity, Hazard Category 4

· Sources

Website, European Chemicals Agency ([http://http://echa.europa.eu/](http://echa.europa.eu/))
 Website, US EPA Substance Registry Services ([http://http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do))
 Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)
 Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6
 Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.
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