MANUFACTURER AND TURN-KEY SUPPLIER
OF GEOTHERMAL SYSTEM COMPONENTS

Safety Data Sheet according regulation 1907 / 2006 / EG

Trade name: Terra Gelu Heat Transfer Fluid L
Print date: 02.12.2015
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Section 1: Identification of the substance/preparation and of the company/undertaking

1.1 Product identifiers

Trade name: Terra Gelu Heat Transfer Fluid L

Registration number: not applicable

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

Relevant identified uses of the substance or mixture: Heat transfer fluid / working fluid / cooling brine

1.3 Details of the supplier of the safety data sheet

Company: Terra Calidus GmbH
Siemensstraße 37
D-07546 Gera
Telephone: +49365 5161 8989
Fax: +49365 5161 8988
Homepage: www.terra-calidus.de
E-Mail: info@terra-calidus.de
Info about substance/mixture: Production

1.4 Emergency telephone

Telephone: +492641-2079408 (Mo. – Fr., 8.00 – 17.00)

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC-directive (67/548/EWG or 1999/45/EG, current version)
Not a hazardous substance or mixture according to EC-directive.

Classification according to regulation (EG) No. 1272/2008
Not a hazardous substance or mixture according to Regulation.

2.2 Label elements

Labeling according to EC-directive (67/548/EWG or 1999/45/EG, current version)
The product is not subject to classification according to EC-directives. Classification was made according to the calculation method of the preparations directive (1999/45/EG).

2.3 Other hazards

Physico-chemical hazards: See section 10.

Health hazards: No hazards known

Environmental hazards: No hazards known

Other hazards:	none
Others	Not classified as hazardous.
R-phrases:	none

Section 3: Composition/information on ingredients

3.2 Mixtures

Chemical characterization:	Base: 1.2 Propylene glycol (Propan-1,2-diol) CAS-No: 57-55-6 EINECS-No: 200-338-0 Other ingredients: corrosion inhibitors, auxiliaries, Aqua.Dest.

Section 4: First aid measures

4.1 Description of first aid measures

General advice:	Not expected to present a significant hazard under anticipated conditions of normal use.
If inhaled:	Move person to fresh air; if effects occur, consult a physician.
In case of skin contact:	Wash skin with plenty of water.
In case of eye contact:	Flush eyes thoroughly with water, consult a specialist.
If swallowed:	Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	No symptoms known.
Hazards:	No hazards known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media

Suitable extinguishing media:	SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases is possible
Carbon monoxide (CO) Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for fire-fighters:

Wear self-contained breathing apparatus

Further information: Wear protective clothing.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Risk of slipping due to leakage / spillage of product. Keep unprotected persons away.

6.2 Environmental precautions: The product is not environmentally hazardous substance.

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

6.3 Methods and materials for containment and cleaning up:

Absorb with sand, soil or absorbent material and dispose in accordance to local authority guidelines. (see Section 13.)

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:	Store in unbreakable containers (packaging).
Requirements for storage areas and containers:	Store in closed containers. Containers must be clean, dry and rust-free.
Advice on protection against fire and explosion:	Normal measures for preventive fire protection.
Storage temperature:	Ambient temperature max. 60^{o}C

7.2 Conditions for safe storage, including any incompatibilities

Advice on common storage:	Do not store together with oxidizing agents Do not store together with strong alkalis
Storage class:	10 Combustible liquids (unless storage class 3)

Section 8: Exposure controls/personal protection

8.1 Control parameters

exposure Limits:	Exposure limit values are not available for the product.
DNEL/DMEL-Values:	not available
PNEC-Values:	not available

8.2 Exposure controls

General protective measures:	Do not inhale vapors
Respiratory protection:	Respiratory protection in case of aerosol and mist formation
Hand protection:	Gloves
Eye protection:	protective goggles
Body protection:	Working clothes
Additional hints on technical system design:	none
Ingredients with workplace-related threshold values which require monitoring:	none

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State:	Liquid

Form:	Liquid
Color:	light blue
Smell:	neutral
pH:	7,5 – 8,5
pH 1%:	not determined
Melting point:	-60 ° C
Boiling point:	approx. 187°C
Flashpoint:	99°C
Ignition temperature:	> 200°C
Autoflammability:	No
Oxidizing properties:	No
Danger of explosion:	Product is not explosive, however, formation of explosive vapor/ air mixture is possible
Explosion limits lower:	2,4 Vol%
Upper:	17.4 Vol%
Vapor pressure (20°C):	0.11 mbar
Density (20°C):	1.045 - 1.055 g / cm3
Solubility in water (20°C):	Any
Dynamic Viscosity (20°C):	55 mPas
Thermal decomposition:	> 255 degrees C

Section 10: Stability and reactivity

10.1 Reactivity:	see Section 10.3
10.2 Chemical stability:	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions:	
	Reacts with strong alkalis.
	Reacts with oxidizing agents.
10.4 Conditions to avoid:	not known
10.5 Incompatible materials:	not known
10.6 Hazardous decomposition products:	
	not known

Section 11: Toxicological information:

11.1 Information on toxicological effects

Acute toxicity:	The product was not tested on animals.
	LD/LC 50 values:
	Propan-1,2-diol: >5000 mg/kg orally, rat
Skin corrosion/irritation:	Not irritant.
Eye irritation:	slight irritation possible
Sensitization:	Non-sensitizing.
Subacute to chronic toxicity:	No
General comment:	No classification on the calculation method of the preparations directive (1999/45/EG)

Section 12: Ecological information

12. 1 Toxicity

Ecological effects:

Aquatic toxicity:

Cyprinodon, LC50:	23800 mg/l/96h
Daphnia, EC50:	> 43500 mg/l/48h
Green algae, EC50:	> 19000 mg/l/72h

12.2 Persistence and degradability:

Biodegradation data

The product has no negative environmental impact.

It's according to OECD 301E / EEC 84/449 C3 rapidly degradable.

Elimination: > 70% DOC (Zahn-Wellens-Test)
> 99% (21d; mod. Sturm-Test)

Rating: Highly biodegradable

Technically correct releases of minimal concentrations to adapted biological sewage treatment facility, will not disturb the biodegradability of activated sludge.

12.3 Bioaccumulative potential: This material is not expected to bioaccumulate.

12.4 Mobility in soil: Transport and distribution between environmental compartments: not determined

12.5 Results of PBT and vPvB assessment:

No data available

12.6 Other adverse effects: unknown

The product was classified according to the calculation method of the preparations directive (1999/45 / EC)

General Information:

WGK Water hazard class 1: slightly hazardous for water.

Do not allow to enter the drainage system, surface water or ground water. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Section 13: Disposal considerations

13.1 Waste treatment methods

Product: Recommendation: In accordance with the necessary technical regulations may be incinerated with household waste, after consultation with waste disposal organization and with the responsible authority.

Waste code number: According to EAK regulation, the allocation of waste code numbers is to be carried out specific to the industry and the process.

Uncleaned packaging:	Recommendation: Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned. Packaging's that cannot be cleaned are to be disposed off in the same manner as the product.

Section 14: Transport information

Section 14.1 to 14.5

ADR	non-hazardous
ADN	non-hazardous
RID	non-hazardous
IATA	non-hazardous
IMDG	non-hazardous
14.6 Special precautions for user	No specific precaution

14.7 Transportation in bulk according to Annex II of MARPOL73/78 and IBC Code

No transport as bulk according IBC Code

Section 15: Regulatory information

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

EC Classification:	Not classified as dangerous under EC criteria.
Labelling:	Not classified.
R-phrases:	None
S-phrases:	None
Notes on employment Restriction:	None
Technical instruction air:	Not applicable
Water hazard class:	1 slightly water endangering (Classification according VwVwS, Annex 4.)

Volatile organic compounds

VOC content:	According to Directive 2004/42 / EC no VOC components (VOC: 0.00%)
Others:	The product meets the requirements of Annex 4 of VAwS Hesse.

Section 16: Other information

Departement issuing data specification sheet: Management

The information supplied has been based upon the current level of information available. The security data sheet describes products in regard to their safety requirements. The indications do not have the meaning of guarantees on properties.