Safety Data Sheet
HTF PRO Heat Transfer Fluid

SECTION 1: Identification

1.1 Product identifier

Product name	HTF PRO Heat Transfer Fluid
Brand	HTF PRO Heat Transfer Fluid

1.4 Supplier's details

Name	Douglas Production Technologies, LLC
Address	1500 East OLD 210 Highway Liberty, MO 64068-9459 USA
Website	www.douglasprotech.com

1.5 Emergency phone number(s)

Chemtrec (800) 424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Other hazards which do not result in classification

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Propylene Glycol

Concentration	>= 0 - <= 95 % (Volume)
Other names / synonyms	1,2-PROPYLENE GLYCOL

CAS no.	57-55-6

2. Potassium phosphate, dibasic

Concentration	> 0 - < 3 % (Volume)
Other names / synonyms	Dipotassium Phosphate Anhydrous
CAS no.	7758-11-1

3. Deionized Water

Concentration	> 0 - < 2 % (Volume)
Other names / synonyms	Deionized Water
CAS no.	7732-18-5

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).
In case of skin contact	Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of the skin. Wash skin with plenty of water.
In case of eye contact	May cause slight temporary eye irritation. Corneal injury is unlikely. Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. IF effects occur, consult a physician, preferably an ophthalmologist.
If swallowed	No emergency medical treatment necessary. Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water for or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affecte4d zone until fire is out and danger of reignition has passed. Fight fire from

protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

5.2 Specific hazards arising from the chemical
Container may rupture from gas generation in a fire situation.

5.3 Special protective actions for fire-fighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Further information
During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or ground water. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up
Small spills: Absorb with materials such as: Cat litter. Sawdust. Vermiculite. Zorb-all®. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. See Section 13, Disposal Considerations, for additional information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
: No special precautions required. Keep container closed. Spills of these organic materials on hot fibrous insulations may lead to lowering of the Autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, Exposure Control and Personal Protection.

7.2 Conditions for safe storage, including any incompatibilities
Do not store in: Galvanized Steel. Opened or unlabeled containers. Store in the following material(s): Carbon steel. Stainless steel. Store in original unopened container. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. 1,2-PROPANEDIOL (CAS: 57-55-6)

WEL (Inhalation): 10

8.3 Individual protection measures, such as personal protective equipment (PPE)

Body protection
Eye/Face Protection: Use safety glasses
Skin Protection: Wear clean, body-covering clothing.
Hand Protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferre4d glove barrier materials include: Butyl rubber. Natural rubber (latex). Neoprene. Nitrile/butadiene rubber (nitrile or NBR). Polyethylene. Ethyl vinyl alcohol laminate (EVAL). Polyvinyl alcohol (PVA). Polyvinyl chloride (PVC or vinyl). NOTICE: The selection of a specific glove for a particular application and duration of sue in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier. Ingestion: Use good personal hygiene. Do not consume or store food in work area. Wash hands before smoking or eating.

Respiratory protection
Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particular pre-filter.

Environmental exposure controls
Prevent from entering into soil, ditches, sewers, waterways and/or ground water. See Section 12, Ecological Information.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	Liquid
Odor	Characteristic
Odor threshold	No test data available
pH	10 (@ 50%)
Melting point/freezing point	Not applicable to liquids/Supercools
Initial boiling point and boiling range	
Flash point	104C 219F Pensky Martins Closed Cup ASTM D93 (based on major component), propylene glycol
Evaporation rate	<0.5 estimated
Flammability (solid, gas)	152ºC 306ºF
Upper/lower flammability limits	2.6% volume
Upper/lower explosive limits	12.5% volume
Vapor pressure	2.2 mmHg
Vapor density	>1.0
Relative density	
Solubility(ies)	In water 100%
Partition coefficient: n-octanol/water	
Auto-ignition temperature	371ºC 700ºF
Decomposition temperature	No test data available
Viscosity	43.4 cSt @ 20ºC
Explosive properties	

Oxidizing properties

SECTION 10: Stability and reactivity

10.2 Chemical stability
Stable under recommended storage conditions. See Storage, Section 7. Hygroscopic.

10.3 Possibility of hazardous reactions
Will not occur

10.4 Conditions to avoid
Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

10.5 Incompatible materials
Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

10.6 Hazardous decomposition products
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldephydes. Alcohols. Ethers. Organic acids.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
LD50, Rat, female 20,000 mg/kg

Skin corrosion/irritation
For similar material(s): LD50, Rabbit >20,000 mg/kg

Serious eye damage/irritation
May cause slight temporary eye irritation. Corneal injury is unlikely.

Respiratory or skin sensitization
Prolonged contact is essentially non irritating to skin. Repeated contact may cause flaking and softening of skin.

Carcinogenicity
Similar formulations did not cause cancer in laboratory animals.

Reproductive toxicity
For the major component(s): In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Summary of evaluation of the CMR properties
Developmental Toxicity: For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals.
Genetic Toxicity: In vitro genetic toxicity studies were negative. For the major component(s): Animal genetic toxicity studies were negative.

SECTION 12: Ecological information

Toxicity
For the major component(s): Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50>100 mg/L in the most sensitive species tested.

SECTION 13: Disposal considerations

Disposal of the product
DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOUGLAS PRODUCTION TECHNOLOGIES HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR USED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. As a service to its customers, Douglas Products and Packaging can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

SECTION 16: Other information

Intended as a heat transfer fluid for closed loop systems. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

16.1 Further information/disclaimer
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