



**beacon  
lubricants** INC

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safety data sheet

## Safety Data Sheet: Signal Therm 400 Oil

Revision Date: January 2<sup>nd</sup> 2024

### SECTION 1

### PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** Signal Therm 400 Oil

**Intended Use:** Heat transfer fluid

#### COMPANY IDENTIFICATION

**Supplier:** Beacon Lubricants  
P.O Box 754  
Edinboro, PA 16412

**Emergency Telephone:** 1-877-734-7334 – Beacon Lubricants, Inc.

**Emergency Telephone:** 1-800-424-9300 (24 hours) – Chemtrec approval

Website: [www.beaconlubricants.com](http://www.beaconlubricants.com)

### SECTION 2

### HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### Other hazard information:

**HAZARD NOT OTHERWISE CLASSIFIED (HNOC):** None as defined under 29 CFR 1910.1200

#### PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

#### HEALTH HAZARDS

Excessive exposure may result in eye, skin, or respiratory irritation .

#### ENVIRONMENTAL HAZARDS

No significant hazards.

**NFPA HAZARD ID:** Health: 1

Flammability: 1

Reactivity: 0

**HMIS HAZARD ID:** Health: 1

Flammability: 1

Reactivity: 0



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Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks, which may vary from person to person.

## SECTION 3

## COMPOSITION / INFORMATION INGREDIENTS

This material is defined as a mixture.

### Hazardous Substance(s) or Complex Substance(s) required for disclosure.

Name	CAS #	Concentration*	GHS Hazard Codes
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	100%	H304
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	100%	H304

\*All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

## SECTION 4

## FIRST AID MEASURES

### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device.

### SKIN CONTACT

Wash contact areas with soap and water.

### EYE CONTACT



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Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

Seek immediate medical attention

## NOTE TO PHYSICIAN

This product contains ethylene glycol and/or diethylene glycol which, if ingested, are metabolized to toxic metabolites by the enzyme alcohol dehydrogenase, for which ethanol and 4-methylpyrazole {U.S. drug name Fomepizole, trade name Antizol} are antagonists. Administration of oral or intravenous ethanol or intravenous 4-methylpyrazole may arrest further metabolism of this material and thereby ameliorate the toxicity. Use of ethanol or 4-methylpyrazole does not affect toxic metabolites that are already present and is not a substitute for hemodialysis.

## SECTION 5

## FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Steams of Water or Regular Foam.

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire-exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Smoke, Fume, Oxides of carbon, incomplete combustion products.

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >194°C (381°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES



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In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting release of this material to the environment, which exceed the applicable reportable quantity or oil spills, which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at 800-424-8802.

## PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for firefighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

**For emergency responders:** Respiratory protection: respiratory protection will be necessary online in special cases, e.g., formation of mists. Half-face or full-face respirators with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large Spills: full body suit of chemical resistant, antistatic material is recommended.

## SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind temperature, (and in the case of a water spill) wave and current direction and speed may



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greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7

## HANDLING AND STORAGE

### HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges, which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and ground may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional reference includes American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics- Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

### Storage:

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabeled containers. Keep away from incompatible materials.

## SECTION 8

## EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

**Exposure limits/standards (Note: Exposure limits are not additive)**

Substance Name	Form	Limit/Standard			NOTE	Source
DIETHYLENE GLYCOL		TWA	10 mg/m <sup>3</sup>		N/A	OARS WEEL
ETHYLENE	Aerosol	Ceiling	100		N/A	ACGIH



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GLYCOL			mg/m3			
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**Note:** Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

#### **Control measures to consider:**

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level, which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with a n escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove stability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for you use conditions. Inspect and replace worn or damaged gloves. The types of glove to be considered for this material include:

No protection is ordinarily required under normal conditions of use.





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**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

## GENERAL INFORMATION

**Physical State:** Liquid

**Color:** Green

**Odor:** Characteristic

**Odor Threshold:** N/D

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density Temperature:** 1.115

**Flammability (Solid, Gas):** N/A

**Flash Point [Method]** 119°C (246°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 0.7

**Auto ignition Temperature:** >371°C

**Boiling Point / Range:** > 171°C (340°F) – 175 °C (347°F)

**Decomposition Temperature:** N/D



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**Vapor Density (Air = 1):** > 2 at 101 kPa [Estimated]  
**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20°C [Estimated]  
**pH:** 6 [Estimated]  
**Log Pow (n-Octanol/Water Partition Coefficient):** < 2  
**Solubility in Water:** Complete  
**Viscosity:** <15.6 cSt (15.6 mm<sup>2</sup>/sec) at 40°C  
Oxidizing properties: See Hazards Identification Section.

**OTHER INFORMATION:**

**Freezing Point:** -18°C (0°F)

**Melting Point:** N/D

**SECTION 10**

**STABILITY AND REACTIVITY**

**REACTIVITY:** See sub-sections bellows.

**STABILITY:** Material is stable under normal conditions

**CONDITIONS TO AVOID:** Excessive heat. High-energy sources of ignition

**MATERIALS TO AVOID:** Strong oxidizers, strong acids

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose to ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**SECTION 11**

**TOXICOLOGICAL INFORMATION**

**INFORMATION ON TOXICOLOGICAL EFFECTS**

Hazard Class	Conclusion / Remarks
<b>Inhalation</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material	Negligible hazard at ambient/normal handling temperatures.
<b>Ingestion</b>	
Acute Toxicity: No end point data for material	Minimally Toxic. Based on assessment of the components.
<b>Skin</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
<b>Eye</b>	





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Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
<b>Sensitization</b>	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available	Not expected to be an aspiration hazard. Based on physic-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children
<b>Specific Target Organ Toxicity (STOT)</b>	
Single Exposure: No end point data for material	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

## TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
ETHYLENE GLYCOL	Oral Lethality: LD50 4700 mg/kg (Rat)

## OTHER INFORMATION

### For the product itself:

Target Organs Repeated Exposure: Kidney

### Contains:

DIETHYLENE GLYCOL (DEG): Orally, DEG is more toxic to humans than animal test data indicate. Probable lethal dose for an adult is about 50 ml (2 oz.), or 2-3 swallows. Smaller amounts may cause kidney degeneration and failure. Benign



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urinary bladder tumors were observed in rats, no tumors were observed in mice. ETHYLENE GLYCOL (EG): Repeated high oral exposure has caused kidney damage, neurological effects, degeneration of the liver and changes in blood chemistry and circulating blood cells in laboratory animals. Repeated overexposure has the potential to cause similar toxic effects in humans. EG causes developmental and reproductive effects at high dose levels in laboratory animals. The relevance of these findings to humans is uncertain.

**The following ingredients are cited on the lists below: None.**

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

## SECTION 12

## ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material – Not expected to be harmful to aquatic organisms.

### MOBILITY

Material – Not expected to remain in water or migrate through soil.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Material – Expected to be readily biodegradable

#### Atmospheric Oxidation:

Material – Expected to degrade rapidly in air

### BIOACCUMULATION POTENTIAL

Material—Potential to bio accumulate is low

## SECTION 13

## DISPOAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations and material characteristics at time of disposal.



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## DISPOSAL RECOMMENDATIONS

Even though this product is biodegradable, it must not be indiscriminately discarded into the environment. Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

## REGULATORY DISPOSAL INFORMATION

**RCRA Information:** The unused product, in our opinion is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials, which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning- Empty Container Warning (where applicable):** Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITIONS. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## SECTION 14

## TRANSPORT INFORMATION

### LAND (DOT):

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Ethylene Glycol)

**LAND (TDG):** Not regulated for Land Transport

**SEA (IMDG):** Not regulated for Sea Transport according to IMDG-CODE

**Marine Pollutant:** No

**AIR (IATA):** Not regulated for Air Transport

## SECTION 15

## REGULATORY INFORMATION



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**OSHA HAZARD COMMUNICATION STANDARD:** This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200

**Listed or exempt from listing/notification on the following chemical inventories:**

AICS, DSL, ENCS, IECSC, KECI, TSCA

**CERCLA:**

Chemical Name	CAS Number	Typical Value	Component RQ	Product RQ
ETHYLENE GLYCOL	107-21-1	90 - < 100 %	5000 LBS	5263.16 LBS

**SARA 311/312 :** Immediate Health. Delayed Health.

**SARA 313 (TRI reporting) :**

Chemical Name	CAS Number	Typical Value
ETHYLENE GLYCOL	107-21-1	90 - < 100%

**The following ingredients are cited on the lists below:**

Chemical Name	CAS Number	List Citations
DIETHYLENE GLYCOL	111-46-6	16,18
ETHYLENE GLYCOL	107-21-1	1,13,16,18,19

**REGULATORY LISTS SEARCHED**

1= ACGIH ALL	6= TSCA 5a2	11= CA p65 REPRO	16= MN RTK
2= ACGIH A1	7= TSCA 5e	12= CA RTK	17= NJ RTK
3= ACGIH A2	8= TSCA 6	13= IL RTK	18= PA RTK
4= OSHA Z	9= TSCA 12b	14= LA RTK	19= RI RTK
5= TSCA 4	10= CA P65 CARC	15= MI 293	

Code Key: CARC+Carcinogen; REPRO=Reproductive

**SECTION 16**

**OTHER INFORMATION**

N/D= Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H302: Harmful if swallowed; Acute Tox Oral, Cat 4



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H373: May cause damage to organs through prolonged or repeated exposure;  
Target Organ, Repeated, Cat 2

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Updates made in accordance with implementation of GHS requirements.  
The information and recommendations contained herein are, to the best of Beacon Lubricant's knowledge and belief, accurate and reliable as of the date issued. You can contact Beacon Lubricant's to insure that this document is the most current available for Beacon Lubricant's. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use