



XCELTHERM 600

Safety Data Sheet

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Version: 11.0

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

SECTION 1: Identification

1.1. Identification

Trade name XCELTHERM 600

NSF Category Code: HT1 – Incidental Food Contact

NSF Certification Date: 17 May 2018

NSF Registration Number: 128011

FDA Compliance Reference: FDA 21 CFR 172.878

1.2. Recommended use and restrictions on use

Use of the substance/mixture: This heat transfer fluid is food contact rated, NSF (HT1 NSF No. 128011) FDA. It is recommended for food processing, processing of natural gas, packaging, plastic extrusion, chemical processing, and micro concentrated solar power.

Use of the substance/mixture: Heat Transfer Fluids
Heat transfer agents

1.3. Supplier

Manufacturer

Radco Industries Inc.
CAGE Code 6ZS16
700 Kingsland Drive
Batavia, Illinois 60510
United States
T (630) 232-7966
www.radcoind.com

1.4. Emergency telephone number

Emergency number: For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-741-5970
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Aspiration hazard Category 1 H304 May be fatal if swallowed and enters airways
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

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GHS US labeling

Hazard pictograms (GHS US):



Signal word (GHS US):

Danger

Hazard statements (GHS US):

H304 - May be fatal if swallowed and enters airways

Precautionary statements (GHS US):

P301+P310 - If swallowed: Immediately call a POISON CENTER, a doctor.

P331 - Do NOT induce vomiting.

P405 - Store locked up.

P501 - Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Trade name

XCELTHERM 600

CAS-No.

8042-47-5

Name	Product identifier	%	GHS US classification
White mineral oil (petroleum)	CAS-No.: 8042-47-5	100	Asp. Tox. 1, H304

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

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms, starting with most life-threatening injuries and disorders. Keep victim under observation. SYMPTOMS MAY BE DELAYED. Call a physician immediately.

First-aid measures after inhalation:

Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air. In case of respiratory problems, consult a doctor/medical service.

First-aid measures after skin contact:

If possible, wipe up chemical. Then rinse/shower immediately with (lukewarm) water. If eye irritation persists: Get medical advice/attention. Wash skin with plenty of water.

First-aid measures after eye contact:

Rinse immediately with (lukewarm) water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Rinse eyes with water as a precaution.

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First-aid measures after ingestion: Rinse mouth out with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and May be fatal if swallowed and enters airways.

symptoms:

Symptoms/effects after inhalation: Coughing.
Symptoms/effects after skin contact: No effects known.
Symptoms/effects after eye contact: No effects known.
Symptoms/effects after ingestion: Nausea. Respiratory difficulties. Vomiting. Coughing. Gastrointestinal complaints. Diarrhoea. Risk of aspiration pneumonia. Risk of lung edema.
Chronic symptoms: No known effects from this product.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Not classified as flammable. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Hazardous decomposition products in case of fire: Upon combustion: carbon monoxide and carbon dioxide are formed.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions: No specific fire-fighting instructions required.
Protection during firefighting: Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137). Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Warning! Product may cause floors to be slippery.

6.1.1. For non-emergency personnel

Protective equipment: Gloves (EN 374). protective clothing (EN 14605 / EN 13034).
Emergency procedures: Ventilate spillage area. Mark the danger area. No naked flames. Wash contaminated clothes.

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6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill.

Methods for cleaning up: Take up liquid spill into absorbent material.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Keep container tightly closed. Do not discharge the waste into the drain.

Hygiene measures: Observe strict hygiene. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.

Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. water/moisture.

Storage area: Meet the legal requirements. Keep container in a well-ventilated place. Provide for a tub to collect spills.

Special rules on packaging: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

XCELTHERM 600 (8042-47-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Mineral oil, excluding metal working fluids Pure, highly and severely refined
ACGIH OEL TWA	5 mg/m ³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022

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White mineral oil (petroleum) (8042-47-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Mineral oil, excluding metal working fluids Pure, highly and severely refined
ACGIH OEL TWA	5 mg/m ³ (inhalable)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
Good resistance: Polyvinylchloride (PVC). neoprene (chloroprene rubber). Nitrile rubber. Poor resistance: Polyvinylalcohol (PVA)
Hand protection:
Protective gloves against chemicals (EN 374)
Eye protection:
Eye protection not required in normal conditions. Safety glasses
Skin and body protection:
Protective clothing (EN 14605 or EN 13034)
Respiratory protection:
Full face mask with filter type A at concentration in air greater than exposure limit

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Liquid.
Color:	Colourless or white
Odor:	Odourless
Odor threshold:	No data available

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pH:	No data available
Melting point:	Not applicable
Freezing point:	≤ -29 °C (Pour point)
Boiling point:	≥ 301 °C
Critical temperature:	542 °C
Flash point:	≥ 193 °C ASTM D92 Flash Point by Cleveland Open Cup
Relative evaporation rate (butyl acetate=1):	No data available
Flammability:	Not applicable.
Vapor pressure:	≤ 0.01 kPa at 20°C (68°F)
Relative vapor density at 20°C:	No data available
Particle size:	Not applicable
Relative density:	0.85 at 25°C (Water = 1)
Density:	7.1 lb/gal at 25°C (77°F)
Molecular mass:	≈ 350 g/mol
Solubility:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow):	5.18 Experimental data
Auto-ignition temperature:	349 °C
Decomposition temperature:	No data available
Viscosity, kinematic:	14 – 17 mm ² /s at 40°C (104°F)
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	Not classified.
Oxidizing properties:	Not oxidising.

9.2. Other information

VOC content:	0 %
Other properties:	Gas/vapour heavier than air at 20°C. Slightly volatile. May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral):	Not classified
Acute toxicity (dermal):	Not classified
Acute toxicity (inhalation):	Not classified
Skin corrosion/irritation:	Not classified pH: No data available
Carcinogenicity:	Not classified Based on available data, the classification criteria are not met
Aspiration hazard:	May be fatal if swallowed and enters airways.
Viscosity, kinematic:	14 – 17 mm ² /s at 40°C (104°F)
Likely routes of exposure:	Inhalation.
Potential Adverse human health effects and symptoms:	May be fatal if swallowed and enters airways.
Symptoms/effects after inhalation:	Coughing.
Symptoms/effects after skin contact:	No effects known.
Symptoms/effects after eye contact:	No effects known.
Symptoms/effects after ingestion:	Nausea. Respiratory difficulties. Vomiting. Coughing. Gastrointestinal complaints. Diarrhoea. Risk of aspiration pneumonia. Risk of lung edema.
Chronic symptoms:	No known effects from this product.
STOT-single exposure:	Not classified
STOT-repeated exposure:	Not classified
Reproductive toxicity:	Not classified

XCELTHERM 600 (8042-47-5)

LD50 oral rat:	> 5000 mg/kg body weight (OECD 401 method)
LD50 dermal rabbit:	> 2000 mg/kg body weight (OECD 402 method)
LC50 Inhalation - Rat:	> 5 mg/l/4h (OECD 403 method)

White mineral oil (petroleum) (8042-47-5)

LD50 oral rat:	> 5000 mg/kg body weight (OECD 401 method)
LD50 dermal rabbit:	> 2000 mg/kg body weight (OECD 402 method)

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LC50 Inhalation - Rat:	> 5 mg/l (OECD 403 method)
White mineral oil (petroleum) (8042-47-5)	
Serious eye damage/irritation:	Not classified
White mineral oil (petroleum) (8042-47-5)	
Respiratory or skin sensitization:	Not classified
White mineral oil (petroleum) (8042-47-5)	
Germ cell mutagenicity:	Not classified (Based on available data, the classification criteria are not met) Based on available data, the classification criteria are not met
XCELTHERM 600 (8042-47-5)	
IARC group:	Not classified
National Toxicity Program (NTP) Status:	Not classified
White mineral oil (petroleum) (8042-47-5)	
IARC group:	Not classified
National Toxicity Program (NTP) Status:	Not classified
XCELTHERM 600 (8042-47-5)	
NOAEL (oral,rat,90 days):	≥ 1200 mg/kg body weight (OECD 435 method)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general:	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - air:	Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photolysis in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water:	Slightly harmful to crustacea (Daphnia). Slightly harmful to fishes. Groundwater pollutant. Slightly harmful to algae.

XCELTHERM 600 (8042-47-5)	
LC50 - Fish [1]:	> 100 mg/l (OECD 203 method)
White mineral oil (petroleum) (8042-47-5)	
LC50 - Fish [1]:	> 100 mg/l (OECD 203 method)

12.2. Persistence and degradability

XCELTHERM 600 (8042-47-5)	
Persistence and degradability:	Not readily biodegradable in water.

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White mineral oil (petroleum) (8042-47-5)	
Persistence and degradability:	Not readily biodegradable in water.

12.3. Bioaccumulative potential

XCELTHERM 600 (8042-47-5)	
BCF - Other aquatic organisms [1]:	1216 l/kg (BCFBAF v3.01, estimated value)
Partition coefficient n-octanol/water (Log Pow):	5.18 Experimental data
Bioaccumulative potential:	Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$).

White mineral oil (petroleum) (8042-47-5)	
BCF - Other aquatic organisms [1]:	1216 l/kg (BCFBAF v3.01, estimated value)
Partition coefficient n-octanol/water (Log Pow):	5.18
Bioaccumulative potential:	Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$).

12.4. Mobility in soil

XCELTHERM 600 (8042-47-5)	
Surface tension:	No data available
Organic Carbon Normalized Adsorption Coefficient (Log Koc):	2.64 (Calculated value: Source PCKOCWIN v2.0)
Ecology - soil:	Low potential for adsorption in soil.

White mineral oil (petroleum) (8042-47-5)	
Surface tension:	No data available
Organic Carbon Normalized Adsorption Coefficient (Log Koc):	2.64 (Calculated value: Source PCKOCWIN v2.0)
Ecology - soil:	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

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Product/Packaging disposal
recommendations:

Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized waste collection point.

Additional information:

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA / ICAO / ADN / RID / ADG

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT):	Not applicable
Proper Shipping Name (TDG):	Not applicable
Proper Shipping Name (IMDG):	Not applicable
Proper Shipping Name (IATA):	Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT):	Not applicable
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TDG

Transport hazard class(es) (TDG):	Not applicable
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IMDG

Transport hazard class(es) (IMDG):	Not applicable
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IATA

Transport hazard class(es) (IATA):	Not applicable
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14.4. Packing group

Packing group (DOT):	Not applicable
Packing group (TDG):	Not applicable
Packing group (IMDG):	Not applicable
Packing group (IATA):	Not applicable

14.5. Environmental hazards

Other information:	No supplementary information available.
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14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
White mineral oil (petroleum)	8042-47-5	Present	Active	

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

XCELTHERM 600 (8042-47-5)

Listed on the Canadian DSL (Domestic Substances List)

White mineral oil (petroleum) (8042-47-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

XCELTHERM 600 (8042-47-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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White mineral oil (petroleum) (8042-47-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

XCELTHERM 600 (8042-47-5)	
U.S. - California - Proposition 65 - Other information:	California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

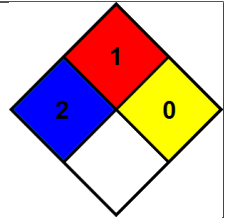
SECTION 16: Other information

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Revision date: 02/22/2023

Full text of H-phrases	
H304	May be fatal if swallowed and enters airways

NFPA health hazard 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating	
Health	2 Moderate Hazard - Temporary or minor injury may occur
Flammability	1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical	0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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