



XCELTHERM® HFF

Safety Data Sheet

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

SECTION 1: Identification

1.1. Identification

Trade name XCELTHERM® HFF

1.2. Recommended use and restrictions on use

Use of the substance/mixture: High flash point of greater than 460°F (238°C) as measured by Cleveland Open Cup method (ASTM D92), petroleum based, non-toxic for use up to 315°C (600°F).

Use of the substance/mixture: Heat Transfer Fluids

Recommended use: Heat transfer fluids

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

Acute toxicity (inhalation:dust,mist) Category 4 H332 Harmful if inhaled
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US):



Signal word (GHS US):

Warning

Hazard statements (GHS US):

H332 - Harmful if inhaled

Precautionary statements (GHS US):

P261 - Avoid breathing fume, mist, spray, vapors.

P271 - Use only outdoors or in a well-ventilated area.

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a doctor, a POISON CENTER if you feel unwell.

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**

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Distillates (petroleum), solvent-dewaxed heavy paraffinic	CAS-No.: 64742-65-0	≥ 75	Acute Tox. 4 (Inhalation:dust,mist), H332
Distillates (petroleum), hydrotreated heavy paraffinic	CAS-No.: 64742-54-7	0 – 10	Not classified
Distillates (petroleum), hydrotreated light paraffinic	CAS-No.: 64742-55-8	0 – 10	Acute Tox. 4 (Inhalation:dust,mist), H332

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

SECTION 4: First-aid measures**4.1. Description of first aid measures**

First-aid measures general:

Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation:

Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact:

Wash skin with plenty of water.

First-aid measures after eye contact:

Rinse eyes with water as a precaution.

First-aid measures after ingestion:

Call a poison center/doctor/physician if you feel unwell.

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

No additional information available

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.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting: 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****6.1.1. For non-emergency personnel**

Emergency procedures: Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapors/spray.

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.

6.3. Methods and material for containment and cleaning up

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: Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures: 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 in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

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No additional information available

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m ³ (8 Hours Inhalable fraction)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	5 mg/m ³ 8 Hours
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	5 mg/m ³ (10 Hours)
NIOSH REL STEL	10 mg/m ³ (15 minutes)

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

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 2023

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

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

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

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

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:	Light yellow
Odor:	Petroleum-like odor
Odor threshold:	No data available
pH:	No data available
Melting point:	Not applicable
Freezing point:	No data available
Boiling point:	348 °C (Normal Boiling Point)
Flash point:	240 °C ASTM D92 Flash point (Cleveland Open Cup Method)
Relative evaporation rate (butyl acetate=1):	No data available
Flammability:	Not applicable.
Vapor pressure:	No data available
Relative vapor density at 20°C:	No data available
Relative density:	0.86 at 25°C (77°F)
Density:	863 kg/m ³ at 25°C (77°F)
Solubility:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	49 mm ² /s at 40°C (104°F)
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	No data available

Oxidizing properties:	No data available
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9.2. Other information

No additional information available

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.

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):	Harmful if inhaled.
Skin corrosion/irritation:	Not classified
Carcinogenicity:	Not classified
Aspiration hazard:	Not classified
Viscosity, kinematic:	49 mm ² /s at 40°C (104°F)
STOT-single exposure:	Not classified
STOT-repeated exposure:	Not classified
Reproductive toxicity:	Not classified

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ATE US (dust, mist):	2.18 mg/l/4h
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

LD50 oral rat:	> 5000 mg/kg body weight (OECD 401 method)
LD50 dermal rabbit:	> 5000 mg/kg body weight (OECD 402 method)
LC50 Inhalation - Rat:	2.18 (1.8 – 2.55) mg/l/4h (OECD 403 method)

ATE US (vapors):	2.18 mg/l/4h
ATE US (dust, mist):	2.18 mg/l/4h

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

LD50 oral rat:	> 5000 mg/kg body weight (OECD 401 method) (OECD 420 method)
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

LD50 oral rat:	> 5000 mg/kg body weight (OECD 420 method)
LD50 dermal rabbit:	> 2000 mg/kg IUCLID reference substance
ATE US (dust, mist):	2.18 mg/l/4h

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

Serious eye damage/irritation:	Not classified
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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Serious eye damage/irritation:	Not classified
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Serious eye damage/irritation:	Not classified
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

Respiratory or skin sensitization:	Not classified
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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Respiratory or skin sensitization:	Not classified
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Respiratory or skin sensitization:	Not classified
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

Germ cell mutagenicity:	Not classified
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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Germ cell mutagenicity:	Not classified
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Germ cell mutagenicity:	Not classified
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

NOAEL (animal/male, F0/P):	≥ 1000 mg/kg body weight (OECD 421 method)
NOAEL (animal/female, F0/P):	≥ 1000 mg/kg body weight (OECD 421 method)
NOAEL (animal/male, F1):	≥ 1000 mg/kg body weight (OECD 421 method)
NOAEL (animal/female, F1):	≥ 1000 mg/kg body weight (OECD 421 method)

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
LOAEL (oral,rat,90 days):	125 mg/kg body weight (OECD 408 method)
NOAEL (dermal,rat/rabbit,90 days):	1000 mg/kg body weight (OECD 410 method)
NOAEC (inhalation,rat,dust/mist/fume,90 days):	> 0.98 mg/l Air (OECD 412 method)

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LOAEL (oral,rat,90 days):	125 mg/kg body weight (OECD 408 method)

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LOAEL (oral,rat,90 days):	125 mg/kg body weight (OECD 408 method)
NOAEC (inhalation,rat,dust/mist/fume,90 days):	> 0.98 mg/l Air (OECD 412 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.

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LC50 - Fish [1]:	> 5000 mg/l IUCLID reference substance
EC50 - Crustacea [1]:	> 1000 mg/l (IUCLID reference substance)

12.2. Persistence and degradability

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Persistence and degradability:	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Partition coefficient n-octanol/water (Log Pow):	2 – 6
Bioaccumulative potential:	No bioaccumulation data available.

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Partition coefficient n-octanol/water (Log Pow):	3.9 – 6 IUCLID reference substance

12.4. Mobility in soil

No additional information available

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.

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

TDG

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

IMDG

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

IATA

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

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.

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
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	Present	Active	
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Present	Active	
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	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****Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)**

Listed on the Canadian DSL (Domestic Substances List)

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Listed on the Canadian DSL (Domestic Substances List)

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

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

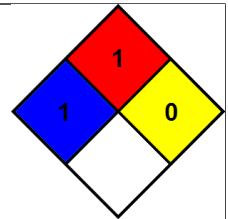
SECTION 16: Other information

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

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Full text of H-phrases	
H332	Harmful if inhaled

NFPA health hazard 1 - Materials that, under emergency conditions, can cause significant irritation.
 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	1 Slight Hazard - Irritation or minor reversible injury possible
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.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any particular process or for any particular purpose. Such information stated is to the best of Radco’s knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made to its accuracy, reliability, or completeness, purchasers, users and distributors are not relying on any promise, representation, or recommendation made by Radco, and Radco does not accept liability for any loss or damage that may occur from the use of this information. Final determination of suitability of any material is the sole responsibility of the user. All material should be used with caution to guard against unknown hazards. Although certain hazards are described herein, Radco does not guarantee that these are the only hazards that exist.