



XCELTHERM® TLX Cleaner

Safety Data Sheet

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Revision date: 1/30/2023

Supersedes: 3/29/2021

Version: 7.0

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

SECTION 1: Identification

1.1. Identification

Trade name XCELTHERM® TLX Cleaner

1.2. Recommended use and restrictions on use

Use of the substance/mixture: For excessive carbon/sludge removal in heat transfer systems. Compatible with all common materials of construction. System flush required before heat transfer fluid replacement.

Use of the substance/mixture: Cleansing product

Recommended use: Other, Use in closed process, no likelihood of exposure

Restrictions on use: Use in closed process, no likelihood of exposure

1.3. Supplier

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

Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Specific target organ toxicity (single exposure) Category 1	H370	Causes damage to organs (Skin) (Dermal)

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):

H318 - Causes serious eye damage

H370 - Causes damage to organs (Skin) (Dermal)

Precautionary statements (GHS US):

P260 - Do not breathe fume, mist, spray, vapors.

P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear eye protection, protective clothing, protective gloves.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P307+P311 - If exposed: Call a poison center/doctor.

P310 - Immediately call a POISON CENTER, a doctor.

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

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
White mineral oil (petroleum)* (Base Oil)	CAS-No.: Trade Secret	70 - 90	Asp. Tox. 1, H304
2-undecoxyethanol* (Surfactant)	CAS-No.: Trade Secret	1 - 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Calcium sulfonate (Additive)	CAS-No.: 57855-77-3	Trade Secret	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370
Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine* (Surfactant)	CAS-No.: Trade Secret	Trade Secret	Acute Tox. 4 (Oral), H302 Aquatic Acute 2, H401
Distillates (petroleum), hydrotreated heavy paraffinic	CAS-No.: 64742-54-7	0.1 – 5	Not classified

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

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:	IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation:	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact:	Wash skin with plenty of water.
First-aid measures after eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
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)

Symptoms/effects after eye contact:	Serious damage to eyes.
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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.
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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.
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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. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
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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".
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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.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

XCELTHERM® TLX Cleaner	
USA - OSHA - Occupational Exposure Limits	
Local name	Oil mist, mineral
OSHA PEL TWA [1]	5 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
White mineral oil (petroleum)	
USA - ACGIH - Occupational Exposure Limits	
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
2-undecoxyethanol	
No additional information available	
Calcium sulfonate (57855-77-3)	
No additional information available	
Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine	
No additional information available	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m ³ 8 Hours. Form: inhalable
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	5 mg/m ³ 8 Hours

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USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	5 mg/m ³ 15 Hours. Form: mist
NIOSH REL STEL	10 mg/m ³ 15 minutes. Form: mist

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 insufficient ventilation, wear suitable respiratory equipment

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:	Amber
Odor:	slight Amine-like odour
Odor threshold:	No data available
pH:	9.1
Melting point:	Not applicable
Freezing point:	No data available
Boiling point:	≥ 300 °C
Flash point:	> 186 °C (Closed cup)
Relative evaporation rate (butyl acetate=1):	No data available

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Flammability:	Not applicable.
Vapor pressure:	≤ 0.01 kPa at 20°C (68°F)
Relative vapor density at 20°C:	No data available
Relative density:	0.87 at 15.6°C (Water = 1)
Solubility:	Poorly soluble in water. Water: < 5 %
Partition coefficient n-octanol/water (Log Pow):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	66 °C
Viscosity, kinematic:	19 – 40 mm ² /s at 40°C
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	Not classified.
Oxidizing properties:	Not classified.

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

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Acute toxicity (inhalation):	Not classified
Skin corrosion/irritation:	Not classified pH: 9.1
Carcinogenicity:	Not classified
Aspiration hazard:	Not classified
Viscosity, kinematic:	19 – 40 mm ² /s at 40°C
Symptoms/effects after eye contact:	Serious damage to eyes.
STOT-single exposure:	Causes damage to organs (Skin) (Dermal).
STOT-repeated exposure:	Not classified
Reproductive toxicity:	Not classified

White mineral oil (petroleum)

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 (OECD 403 method)

2-undecoxyethanol

LD50 dermal rabbit:	> 2000 mg/kg
ATE US (oral):	500 mg/kg body weight

Calcium sulfonate (57855-77-3)

LD50 oral rat:	> 2500 mg/kg
LD50 dermal rabbit:	> 20000 mg/kg body weight Animal: rabbit, Guideline: other:FHSLA, CFR. Title 21. para. 191.10 and Appraisal of the Safety of 'Chemicals in Foods, Drugs and Cosmetics, Association of Food and Drug Officials of the U.S.

Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine

LD50 oral rat:	1300
ATE US (oral):	1300 mg/kg body weight

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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White mineral oil (petroleum)

Serious eye damage/irritation:	Causes serious eye damage.
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2-undecoxyethanol

Serious eye damage/irritation:	Causes serious eye damage.
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Calcium sulfonate (57855-77-3)

Serious eye damage/irritation:	Causes serious eye damage.
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Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine

Serious eye damage/irritation:	Causes serious eye damage.
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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Serious eye damage/irritation:	Causes serious eye damage.
White mineral oil (petroleum)	
Respiratory or skin sensitization:	Not classified
2-undecoxyethanol	
Respiratory or skin sensitization:	Not classified
Calcium sulfonate (57855-77-3)	
Respiratory or skin sensitization:	Not classified
Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine	
Respiratory or skin sensitization:	Not classified
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Respiratory or skin sensitization:	Not classified
White mineral oil (petroleum)	
Germ cell mutagenicity:	Not classified
2-undecoxyethanol	
Germ cell mutagenicity:	Not classified
Calcium sulfonate (57855-77-3)	
Germ cell mutagenicity:	Not classified
Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine	
Germ cell mutagenicity:	Not classified
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Germ cell mutagenicity:	Not classified
XCELTHERM® TLX Cleaner	
IARC group:	Not classified
National Toxicity Program (NTP) Status:	Not classified
Calcium sulfonate (57855-77-3)	
NOAEL (oral,rat):	95 mg/kg body weight
STOT-single exposure:	Causes damage to organs.
Calcium sulfonate (57855-77-3)	
NOAEL (oral,rat,90 days):	95 – 298 mg/kg body weight (OECD 422 method)

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

LOAEL (oral,rat,90 days):	125 mg/kg body weight (OECD 408 method)
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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.

White mineral oil (petroleum)

LC50 - Fish [1]:	> 100 mg/l (OECD 203 method)
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2-undecoxyethanol

LC50 - Fish [1]:	3.9 mg/l (Source: ECOTOX)
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Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine

LC50 - Fish [1]:	22 mg/l
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EC50 - Crustacea [1]:	2.5 mg/l
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12.2. Persistence and degradability

White mineral oil (petroleum)

Persistence and degradability:	Not readily biodegradable in water.
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12.3. Bioaccumulative potential

White mineral oil (petroleum)

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

Partition coefficient n-octanol/water (Log Pow):	4 (Source: EPISUITE)
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12.4. Mobility in soil

White mineral oil (petroleum)

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

DOT NA No:	Not applicable
UN-No.:	Not applicable
UN-No. (IMDG):	3082
UN-No. (IATA):	3082

14.2. UN proper shipping name

Proper Shipping Name (DOT):	Not applicable
Proper Shipping Name (TDG):	Not applicable
Proper Shipping Name (IMDG):	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Alkylbenzene Sulfonate)
Proper Shipping Name (IATA):	Environmentally hazardous substance, liquid, n.o.s. (Contains Alkylbenzene Sulfonate)
Transport document description (IMDG):	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Alkylbenzene Sulfonate), 9, III (186°C c.c.)
Transport document description (IATA):	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Contains Alkylbenzene Sulfonate), 9, III

14.3. Transport hazard class(es)**DOT**

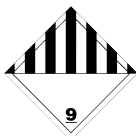
Transport hazard class(es) (DOT):	Not applicable
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TDG

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

Transport hazard class(es) (IMDG):	9
Hazard labels (IMDG):	9



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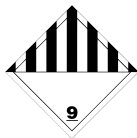
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IATA

Transport hazard class(es) (IATA): 9

Hazard labels (IATA): 9



14.4. Packing group

Packing group (DOT): Not applicable

Packing group (TDG): Not applicable

Packing group (IMDG): III

Packing group (IATA): III

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

Special provision (IMDG): 274, 335, 969

Limited quantities (IMDG): 5 L

Excepted quantities (IMDG): E1

Packing instructions (IMDG): LP01, P001

Packing provisions (IMDG): PP1

IBC packing instructions (IMDG): IBC03

Tank instructions (IMDG): T4

Tank special provisions (IMDG): TP1, TP29

EmS-No. (Fire): F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage): S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS

Stowage category (IMDG): A

IATA

PCA Excepted quantities (IATA): E1

PCA Limited quantities (IATA): Y964

PCA limited quantity max net quantity (IATA): 30kgG

PCA packing instructions (IATA): 964

PCA max net quantity (IATA): 450L

CAO packing instructions (IATA): 964

CAO max net quantity (IATA): 450L

Special provision (IATA): A97, A158, A197, A215

ERG code (IATA): 9L

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)		Present	Active	
2-undecoxyethanol		Present	Active	FRI;PMN;XU
Calcium sulfonate	57855-77-3	Present	Active	
Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine		Present	Active	
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	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****White mineral oil (petroleum)**

Listed on the Canadian DSL (Domestic Substances List)

2-undecoxyethanol

Listed on the Canadian DSL (Domestic Substances List)

Calcium sulfonate (57855-77-3)

Listed on the Canadian DSL (Domestic Substances List)

Benzenesulfonic Acid, C10-16-alkyl derivatives, compounds with 2-propanamine

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

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EU-Regulations

No additional information available

National regulations

White mineral oil (petroleum)
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

⚠ WARNING: This product can expose you to White mineral oil (petroleum), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

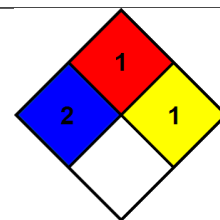
SECTION 16: Other information

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Full text of H-phrases	
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H370	Causes damage to organs
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

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 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



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)

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Physical	1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
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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.