



XCELTHERM® DE

Safety Data Sheet

Issue date: 1/30/2025

Revision date: 2/4/2025

Supersedes: 1/30/2025

Version: 2.0

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Identification

Trade name XCELTHERM® DE

1.2. Recommended use and restrictions on use

No additional information available

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

| | | |
|-------------------------------------------------------------------|------|--------------------------------------------------------------------------------------|
| Acute toxicity (inhalation:dust,mist), Category 4 | H332 | Harmful if inhaled. |
| Specific target organ toxicity — Repeated exposure, Category 1 | H372 | Causes damage to organs (liver) through prolonged or repeated exposure (if inhaled). |
| Aspiration hazard, Category 1 | H304 | May be fatal if swallowed and enters airways. |
| Hazardous to the aquatic environment — Chronic Hazard, Category 1 | H410 | Very toxic to aquatic life with long lasting effects. |

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):

Danger

Hazard statements (GHS US):

H304 - May be fatal if swallowed and enters airways
 H332 - Harmful if inhaled
 H372 - Causes damage to organs (liver) through prolonged or repeated exposure (if inhaled)
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US):

P260 - Do not breathe fume, gas, mist, spray, vapours.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P273 - Avoid release to the environment.
 P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER.
 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.
 P314 - Get medical attention.
 P331 - Do NOT induce vomiting.
 P391 - Collect spillage.
 P405 - Store locked up.
 P501 - Dispose of contents and 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 |
|----------------------------------------|---------------------|----------|----------------------------------------------------------------------------------------------|
| (phenylethyl)benzene | CAS-No.: 38888-98-1 | 40 – 60 | Acute Tox. 4 (Inhalation:dust,mist), H332 Asp. Tox. 1, H304 Aquatic Chronic 1, H410 |
| Benzene, methyl(phenylmethyl)- | CAS-No.: 27776-01-8 | 30 – 50 | Acute Tox. 4 (Inhalation:dust,mist), H332 Asp. Tox. 1, H304 Aquatic Chronic 1, H410 |
| Benzene, ethylenated, by-products from | CAS-No.: 68608-82-2 | 0.05 – 5 | STOT RE 1, H372 Aquatic Chronic 1, H410 |

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 physician immediately. |
| 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: | Do not induce vomiting. Call a physician immediately. |

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

| | |
|--------------------------------------|-------------------------------|
| Symptoms/effects after inhalation: | Harmful if inhaled. |
| Symptoms/effects after skin contact: | None under normal conditions. |
| Symptoms/effects after eye contact: | None under normal conditions. |
| Symptoms/effects after ingestion: | Risk of lung edema. |

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: | Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

| | |
|---------------------------------------------------|------------------------------|
| Fire hazard: | No fire hazard. |
| Explosion hazard: | No direct explosion hazard. |
| Hazardous decomposition products in case of fire: | Toxic fumes may be released. |

5.3. Special protective equipment and precautions for fire-fighters

| | |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Firefighting instructions: | Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| 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**

| | |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| General measures: | Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|

6.1.1. For non-emergency personnel

| | |
|-----------------------|--------------------------------------------------------------------------|
| Protective equipment: | Wear recommended personal protective equipment. |
| Emergency procedures: | Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. |

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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".

Emergency procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

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

Additional hazards when processed: Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling: Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

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

Technical measures: Keep in a cool, well-ventilated place away from heat.

Storage conditions: Store locked up.

Packaging materials: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| |
|------------------------------------------------------------|
| XCELTHERM® DE |
| No additional information available |
| (phenylethyl)benzene (38888-98-1) |
| No additional information available |
| Benzene, methyl(phenylmethyl)- (27776-01-8) |
| No additional information available |
| Benzene, ethylenated, by-products from (68608-82-2) |
| No additional information available |

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

Personal protective equipment:

Wear recommended 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: | Clear liquid. |
| Color: | White to light yellow |
| Odor: | There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Aromatic odor |
| Odor threshold: | No data available |
| pH: | No data available |
| Melting point: | Not applicable |
| Freezing point: | ≤ -65 (Pour point) |
| Boiling point: | 270 – 280 °C (Normal Boiling Point) |
| Flash point: | 136 °C (Cleveland Open Cup Method) |

| | |
|--------------------------------------------------|---------------------------------------------|
| Relative evaporation rate (butyl acetate=1): | No data available |
| Flammability: | 0.6 – 4.2 % literature Not applicable. |
| Vapor pressure: | 0.004 kPa at 20°C |
| Relative vapor density at 20°C: | No data available |
| Relative density: | 0.98 at 25°C |
| Density: | 980 kg/m ³ at 25°C |
| Molecular mass: | 182 g/mol |
| Solubility: | insoluble in water. Water: < 10 mg/l |
| Partition coefficient n-octanol/water (Log Pow): | ≥ 4.5 (Based on benzyltoluene (27776-01-8)) |
| Auto-ignition temperature: | ≥ 450 (calculated value) |
| Decomposition temperature: | No data available |
| Viscosity, kinematic: | 2 – 4 mm ² /s at 40°C |
| Viscosity, dynamic: | No data available |
| Explosion limits: | No data available |
| Explosive properties: | No data available |
| Oxidizing properties: | No data available |

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): | Inhalation:dust,mist: Harmful if inhaled. |
| Skin corrosion/irritation: | Not classified |
| Carcinogenicity: | Not classified |
| Aspiration hazard: | May be fatal if swallowed and enters airways. |
| Viscosity, kinematic: | 2 – 4 mm ² /s at 40°C |
| Symptoms/effects after inhalation: | Harmful if inhaled. |
| Symptoms/effects after skin contact: | None under normal conditions. |
| Symptoms/effects after eye contact: | None under normal conditions. |
| Symptoms/effects after ingestion: | Risk of lung edema. |
| STOT-single exposure: | Not classified |
| STOT-repeated exposure: | Causes damage to organs (liver) through prolonged or repeated exposure (if inhaled). |
| Reproductive toxicity: | Not classified |

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| | |
|----------------------|-------------|
| ATE US (dust, mist): | 1.5 mg/l/4h |
|----------------------|-------------|

(phenylethyl)benzene (38888-98-1)

| | |
|------------------------|--------------------------------------------|
| LD50 oral rat: | 2531 mg/kg body weight (OECD 401 method) |
| LD50 dermal rat: | > 2000 mg/kg body weight (OECD 402 method) |
| LC50 Inhalation - Rat: | 1 – 5 mg/l/4h (OECD 403 method) |
| ATE US (oral): | 2531 mg/kg body weight |
| ATE US (vapors): | 1 mg/l/4h |
| ATE US (dust, mist): | 1 mg/l/4h |

Benzene, methyl(phenylmethyl)- (27776-01-8)

| | |
|------------------------|---------------------------------|
| LC50 Inhalation - Rat: | 1 – 5 mg/l/4h (OECD 403 method) |
| ATE US (vapors): | 1 mg/l/4h |
| ATE US (dust, mist): | 1 mg/l/4h |

Benzene, ethylenated, by-products from (68608-82-2)

| | |
|----------------|-----------------------------------------|
| LD50 oral rat: | > 5000 mg/kg body weight (EPA OPP 81-1) |
|----------------|-----------------------------------------|

(phenylethyl)benzene (38888-98-1)

| | |
|--------------------------------|----------------|
| Serious eye damage/irritation: | Not classified |
|--------------------------------|----------------|

Benzene, methyl(phenylmethyl)- (27776-01-8)

| | |
|--------------------------------|----------------|
| Serious eye damage/irritation: | Not classified |
|--------------------------------|----------------|

| Benzene, ethylenated, by-products from (68608-82-2) | |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serious eye damage/irritation: | Not classified |
| (phenylethyl)benzene (38888-98-1) | |
| Respiratory or skin sensitization: | Not classified |
| Benzene, methyl(phenylmethyl)- (27776-01-8) | |
| Respiratory or skin sensitization: | Not classified |
| Benzene, ethylenated, by-products from (68608-82-2) | |
| Respiratory or skin sensitization: | Not classified |
| (phenylethyl)benzene (38888-98-1) | |
| Germ cell mutagenicity: | Not classified |
| Benzene, methyl(phenylmethyl)- (27776-01-8) | |
| Germ cell mutagenicity: | Not classified |
| Benzene, ethylenated, by-products from (68608-82-2) | |
| Germ cell mutagenicity: | Not classified |
| Benzene, methyl(phenylmethyl)- (27776-01-8) | |
| LOAEL (animal/male, F0/P): | 12.5 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| NOAEL (animal/female, F0/P): | 50 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Benzene, ethylenated, by-products from (68608-82-2) | |
| NOAEL (animal/female, F0/P): | 20 mg/kg body weight (OECD 422 method) |
| Benzene, ethylenated, by-products from (68608-82-2) | |
| LOAEC (inhalation, rat, dust/mist/fume, 90 days): | 0.02 mg/l Air |
| NOAEL (oral, rat, 90 days): | 20 mg/kg body weight (OECD 422 method) |
| NOAEC (inhalation, rat, dust/mist/fume, 90 days): | 0.1 mg/l Air |
| STOT-repeated exposure: | Causes damage to organs through prolonged or repeated exposure. |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: Very toxic to aquatic life with long lasting effects.

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| (phenylethyl)benzene (38888-98-1) | |
|------------------------------------------|---------------------------------------------------------------|
| LC50 - Fish [1]: | 0.31 mg/l (OECD 203 method) |
| EC50 - Crustacea [1]: | 1.2 mg/l Species: Daphnia magna (Water flea)(OECD 202 method) |
| EC50 - Crustacea [2]: | 1.4 mg/l Species: Daphnia magna (Water flea) |
| ErC50 algae: | 0.56 mg/l (OECD 201 method) |

| Benzene, methyl(phenylmethyl)- (27776-01-8) | |
|----------------------------------------------------|-----------------------------------------------------|
| LC50 - Fish [1]: | 0.31 mg/l Test organisms (species): Oryzias latipes |
| EC50 - Crustacea [1]: | 1.2 mg/l Test organisms (species): Daphnia magna |
| EC50 - Crustacea [2]: | 1.4 mg/l Test organisms (species): Daphnia magna |

| Benzene, ethylenated, by-products from (68608-82-2) | |
|------------------------------------------------------------|----------------------------------------------|
| LC50 - Fish [1]: | 1.65 mg/l Species: Pimephales promelas |
| EC50 - Crustacea [1]: | 300 µg/l Species: Daphnia magna (Water flea) |

12.2. Persistence and degradability

| (phenylethyl)benzene (38888-98-1) | |
|------------------------------------------|-------------------------------------|
| Persistence and degradability: | Not readily biodegradable in water. |

12.3. Bioaccumulative potential

| XCELTHERM® DE | |
|--------------------------------------------------|---------------------------------------------|
| Partition coefficient n-octanol/water (Log Kow): | ≥ 4.5 (Based on benzyltoluene (27776-01-8)) |

| (phenylethyl)benzene (38888-98-1) | |
|--------------------------------------------------|-------------------------------------------------------------------|
| BCF - Fish [1]: | 620 – 760 l/kg (OECD 305 method) |
| Partition coefficient n-octanol/water (Log Pow): | 4.48 (OECD 117 method) |
| Bioaccumulative potential: | Potential for bioaccumulation ($4 \leq \text{Log Kow} \leq 5$). |

12.4. Mobility in soil

| (phenylethyl)benzene (38888-98-1) | |
|-------------------------------------------------------------|-------------------------------------------|
| Surface tension: | 69.92 mN/m (OECD 115 method) |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc): | 3.64 (OECD 211 method) |
| Ecology - soil: | Potential for mobility in soil is slight. |

12.5. Other adverse effects

No additional information available



SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation: Disposal must be done according to official regulations.
 Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.
 Sewage disposal recommendations: Disposal must be done according to official regulations.
 Product/Packaging disposal recommendations: Disposal must be done according to official regulations.
 Additional information: Do not re-use empty containers.

SECTION 14: Transport information

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

| DOT | TDG | IMDG | IATA |
|-----------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 14.1. UN number | | | |
| Not applicable | Not applicable | 3082 | 3082 |
| 14.2. Proper Shipping Name | | | |
| Not applicable | Not applicable | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS (Phenylethyl)benzene) | Environmentally hazardous substance, liquid, n.o.s. (CONTAINS (Phenylethyl)benzene) |
| Transport document description | | | |
| Not applicable | Not applicable | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS (Phenylethyl)benzene), 9, III, MARINE POLLUTANT (136°C c.c.) | UN 3082 Environmentally hazardous substance, liquid, n.o.s. (CONTAINS (Phenylethyl)benzene), 9, III |
| 14.3. Transport hazard class(es) | | | |
| Not applicable | Not applicable | 9 | 9 |
| | |  |  |
| 14.4. Packing group | | | |
| Not applicable | Not applicable | III | III |
| 14.5. Environmental hazards | | | |
| Not applicable | Not applicable | Dangerous for the environment: Yes Marine pollutant: Yes | Dangerous for the environment: Yes |

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| DOT | TDG | IMDG | IATA |
|----------------------------------------|-----|------|------|
| 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

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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

| |
|-------------------------------------------------------|
| (phenylethyl)benzene (38888-98-1) |
| Listed on the Canadian DSL (Domestic Substances List) |

| |
|-------------------------------------------------------|
| Benzene, methyl(phenylmethyl)- (27776-01-8) |
| Listed on the Canadian DSL (Domestic Substances List) |

| |
|------------------------------------------------------------|
| Benzene, ethylenated, by-products from (68608-82-2) |
| Listed on the Canadian DSL (Domestic Substances List) |

EU-Regulations

No additional information available

National regulations

No additional information available

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 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Revision date: 02/04/2025

| Full text of hazard classes and H-statements | |
|-----------------------------------------------------|----------------------------------------------------------------|
| H304 | May be fatal if swallowed and enters airways |
| H332 | Harmful if inhaled |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H410 | Very toxic to aquatic life with long lasting effects |

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.