



XCEL THERM[®] LV1 GRADE HEAT TRANSFER FLUID

SAFETY DATA SHEET

Issue Date: 10 December 1999

Revision Date: 26 February 2018

Revision Number: 3.0

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: XCEL THERM[®] LV1 Heat Transfer Fluid

ISO 9001:2008 Certification Number: C2015-00068

1.2 Relevant identified uses of the substance or mixture and uses advised against

Liquid or vapor phase to 371°C (700°F)

1.3 Details of the supplier of the safety data sheet

Headquarters and Manufacturing Facility
Radco Industries, Inc.
700 Kingsland Drive
Batavia, IL 60510
CAGE Code 6ZS16

Customer information number: 1-630-232-7966

1.4 Emergency Telephone Number

Advisory Office in case of poisoning: Chemtrec
Chemtrec (North America): 1-800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

| | |
|-----------------------------------|-------------|
| Aquatic toxicity, acute hazards | Category 1 |
| Aquatic toxicity, chronic hazards | Category 1 |
| Serious eye irritation | Category 2B |
| Skin irritation | Category 2 |

Classifications of mixture is in accordance with United Nations (UN) Globally Harmonized System of Classification and Labelling of Chemicals (GHS), sixth revised edition (2015), and United States Standard 29 CFR 1910 Occupational Safety and Health Standards.

See SECTION 16 for toxicity category definitions.

2.1 Label elements



Exclamation



Environmental Hazard

Hazard pictograms:

Signal word:

Warning

Hazard statements

| | |
|-------|--------------------------------|
| H315: | Causes skin irritation. |
| H319: | Causes serious eye irritation. |



| | |
|-------|---|
| H335: | May cause respiratory irritation. |
| H410: | Very toxic to aquatic life with long-lasting effects. |

Precaution statements

| | |
|----------------------------|---|
| P101: | If medical advice is needed, have product container or label at hand. |
| P202: | Do not handle until all safety precautions have been read and understood. |
| P270: | Do not eat, drink or smoke when using this product. |
| P273: | Avoid release to the environment. |
| P280: | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301 + P331 + P315: | IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. Get immediate medical advice/attention. |
| P303 + P353: | IF ON SKIN (or hair): Rinse skin with water/shower. |
| P304 + P340 + P342 + P315: | IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, get immediate medical advice/attention. |
| P305 + P351 + P338 + P310: | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. |
| P306 + P363: | IF ON CLOTHING: Wash contaminated clothing before reuse. |
| P404: | Store in a closed container. |
| P501: | Dispose of contents/container to in accordance with local/regional/national/international regulation. |

2.2 Other hazards

PBT and vPvB

This product is not PBT and vPvB based on components.

NFPA Hazard ID

Health: 1
Flammability: 1
Reactivity: 0

HMIS Hazard ID

Health: 1
Flammability: 1
Reactivity: 0

SECTION 3. Composition/information on ingredients

3.1 Substances

1,1-Diphenylethane

Index number: Not available
CAS number: 612-00-0
EC number: 254-179-7
REACH number: 01-2119976366-24
Synonyms: (phenylethyl)benzene; 1,1'-ethane-1,1-diylidibenzene;

Diphenyl oxide

Index number: Not available
CAS number: 101-84-8
EC number: 202-981-2
REACH number: 01-2119472545-33
Synonyms: 1,1-Diphenylethane oxide; Diphenyl ether

3.2 Mixtures



Description of mixture:

Binary mixture of synthetic aromatics

| Component | CAS Number | EC Number | %Content | Classification of Labeling | M-Factor |
|--------------------|------------|-----------|----------|--|----------|
| 1,1-Diphenylethane | 612-00-0 | 254-179-7 | 82% | Eye Irrit. 2A – H319 | -- |
| Diphenyl oxide | 101-84-8 | 202-981-2 | 18% | Aquatic Acute 1 – H400 Eye Irrit. 2A – H319 | 1 -- |

M-Factor determinations are in accordance with UN GHS, sixth revised edition (2015).

See SECTION 16 for full text of the toxicity categories and H-statements listed in this section.

Indicative occupational exposure limit values

| Component | Specific Concentration limits |
|--------------------|--|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | See SECTION 8 for specific concentration limits. |

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact

Upon accidental eye exposure, wash the eyes promptly with water for at least 20 minutes. If wearing contact lenses, remove them if safe to do so, and continue washing. Get medical attention immediately.

Ingestion

If swallowed, do not induce vomiting. Rinse mouth out with water. Get medical attention immediately.

Inhalation

If respiratory irritation, dizziness, or nausea occurs, move to fresh air and keep at rest in a comfortable position for breathing. If symptoms persist or unconsciousness occurs, seek immediate medical assistance.

Skin contact

Wash skin thoroughly with mild soap and plenty of water for at least 20 minutes. If irritation develops, seek medical advice.

Note to physicians

Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms

Eye exposure symptoms

Direct eye exposure may lead to redness and lacrimation (crying tears).

Ingestion symptoms

Small amounts may cause nausea. Large amounts may lead to abdominal obstruction (cramps), constipation or diarrhea.

Inhalation symptoms

May cause irritation of the nose, throat, and lungs.

Skin exposure symptoms

Short-term exposure is not expected to cause irritation.

Delayed symptoms

Eye exposure symptoms

None expected, however seek medical attention if irritation persists.



Ingestion symptoms

None expected, however seek medical attention if abdominal obstruction, constipation or diarrhea persists.

Inhalation symptoms

None expected, however seek medical attention if respiratory irritation persists.

Skin exposure symptoms

Repeated exposure may lead to irritation. If rash develops, seek medical attention.

4.3 Indication of any immediate medical attention and special treatment needed

Suggestions for clinical testing and medical monitoring for delayed effects are not known. Use first aid when applicable, and seek guidance from a medical physician for specific treatment.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media includes alcohol-resistant foam, carbon dioxide, dry chemical or water fog.

5.2 Special hazards arising from the substance or mixture

No data is available.

5.3 Advice for firefighters

Fire-Fighting Equipment

Firefighter should wear normal protective equipment (full bunker gear) and positive-pressure contained breathing apparatus. Water can be used to cool fire-exposed containers, to protect personnel and to disperse vapors and spills. Water runoff can cause environmental damage. Dike and collect water used to fight fires.

Special Fire-Fighting Procedures

Use water spray to cool fire-exposed containers and structures. If a rail or tank truck is involved in a fire, isolate for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear personal protective equipment (PPE). Eliminate sources of ignition, if safe to do so. Avoid breathing vapors or mist. Evacuate to designated safe areas.

For emergency responders

If possible, move individual to safe area, and treat symptomatically.

6.2 Environmental precautions

Contain spill, if safe to do so. Prevent from entering sewers or drains.

6.3 Methods and material for containment and cleaning up

Use oil absorbent material to soak up product on the ground. Should this product enter sewers or drains, it should be pumped out into an open vessel. The recovered material should be discarded as hazardous waste.

6.4 Reference to other sections

If appropriate, refer to SECTION 8 and SECTION 13 for additional information.



SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Use personal protective equipment (PPE) when handling this product. Smoking, eating and drinking should be prohibited in the application area.

7.2 Conditions for safe storage, including any incompatibilities

Do not store in open or unlabeled containers. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Recommended for PET production, Synthetic Fiber plants and many other applications that require a high temperature heat transfer fluid.

SECTION 8.

8.1 Control parameters

Occupational exposure limits

| Component | Form | Exposure Limits |
|--------------------|-------|---|
| 1,1-Diphenylethane | -- | No data available |
| Diphenyl oxide | Vapor | ACGIH (United States, 2001) TWA = 1 ppm, 7 mg/m ³ |
| | Vapor | ACGIH (United States, 2001) STEL = 2 ppm, 14 mg/m ³ |
| | Vapor | NIOSH (United States, 4/2016) TWA = 1 ppm, 7 mg/m ³ |
| | Vapor | OSHA Z-1 (United States, 6/2010) TWA = 1 ppm, 7 mg/m ³ |

Biological exposure limits

None established for any of the disclosed components.

8.2 Exposure controls

Appropriate engineering controls

Practice general industrial hygiene. Do not eat, drink or smoke near product. Wash hands after handling. Remove clothing and wash separate from other laundry.

Personal protective equipment (PPE)

Eye/face protection

Safety glasses, chemical safety goggles and/or face shields are recommended when handling this product.

Skin protection

For extended handling, wear oil resistant gloves such as neoprene. Nitrile gloves may be appropriate for short handling periods use. Contact a government approved or accredited manufacturer for specific recommendations.

Other protections

Wear protective clothing ensuring minimal skin exposure. Protective clothing should be chemically impervious to oils and other solvents.

Respiratory protection

Use with adequate ventilation. Avoid breathing vapor. If heated and ventilation is inadequate, use NIOSH certified respirator, which will protect against organic vapor.

Environmental exposure controls

Do not allow product to reach ground water, water course, or sewage systems. Stop leaks, if safe to do so. Contain spills with absorbent or adsorbent materials.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| Appearance: | Colorless to straw-colored liquid |
| Odor: | Aromatic |
| Odor threshold: | 1 part per million (ppm) |
| Auto-ignition temperature: | 604°C (1120°F) |
| Decomposition temperature: | 0.2% mass at 371°C (700°F) |
| Evaporation Rate: | Not determined |
| Explosive properties: | Not determined |
| Flammability (solid, gas): | Non-flammable |
| Lower flammability limit: | Not available |
| Upper flammability limit: | Not available |
| Flash point Cleveland Open Cup (ASTM D92): | 122°C (252°F) |
| Flash point Pensky-Martens (ASTM D93): | 107°C (225°F) |
| Normal boiling point: | 258°C (496°F) |
| Melting point/freezing point: | 7.2°C (45°F) |
| Oxidizing properties: | Not determined |
| Partition coefficient (n-octanol/water), Log P _{ow} : | Not determined |
| pH: | Not applicable |
| Relative density (ASTM D1298) 15.6°C/15.6°C (60°F/60°F): | 1.06 |
| Solubility in water: | Insoluble |
| Vapor density: | Not determined |
| Vapor pressure: | < 1 mmHg at 20°C (68°F) |
| Viscosity (ASTM D445): | 5.0 mm ² /s (cSt) at 20°C (68°F) |

9.2 Other information

No further information is available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Non-reactive in its original state.

10.2 Chemical stability

Stable in its original state.

10.3 Possibility of hazardous reactions

Does not occur.

10.4 Conditions to avoid

Oxidizing materials

10.5 Incompatible materials

Keep away from strong oxidizing or reducing agents.

10.6 Hazardous decomposition products

Decomposition of this product under fire conditions may produce carbon oxides, phenols, and other decomposition products.

SECTION 11. TOXICOLOGICAL INFORMATION



11.1 Information on toxicological effects

| Acute toxicity | Method | Species | Result |
|--------------------|------------|---------|---|
| 1,1-Diphenylethane | Dermal | Rat | LD ₅₀ > 2000 mg/kg body-weight |
| | Inhalation | Rat | LC ₅₀ = 1 – 5 mg/L |
| | Oral | Rat | LD ₅₀ = 2531 mg/kg body-weight |
| Diphenyl oxide | Dermal | Rabbit | LD ₅₀ > 7940 mg/kg |
| | Inhalation | -- | No data available |
| | Oral | Rat | LD ₅₀ = 2830 mg/kg body-weight |

| Aspiration hazard | Result |
|--------------------|-------------------------------|
| 1,1-Diphenylethane | LC ₅₀ = 1 – 5 mg/L |
| Diphenyl oxide | No data available |

| Carcinogenicity | Result |
|--------------------|---|
| 1,1-Diphenylethane | Not a known carcinogen by IARC, NTP or OSHA |
| Diphenyl oxide | Not a known carcinogen by IARC, NTP or OSHA |

| Eye damage / irritation | Test Method | Species | Results |
|-------------------------|-------------|---------|-----------------------|
| 1,1-Diphenylethane | Read across | Rabbit | Not irritating |
| Diphenyl oxide | Read across | Rabbit | Moderately irritating |

| Germ cell mutagenicity | Test Method | Species | Results |
|------------------------|-------------|-----------------------|---------------|
| 1,1-Diphenylethane | OECD 471 | <i>S. typhimurium</i> | Not mutagenic |
| Diphenyl oxide | Ames Assay | <i>S. typhimurium</i> | Not mutagenic |

| Reproductive toxicity | Test Method | Species | Results |
|-----------------------|-------------|---------|---|
| 1,1-Diphenylethane | OECD 422 | Rat | Parental NOAEL = 30 mg/kg bodyweight/day |
| | OECD 422 | Rat | Reproduction NOAEL = 100 mg/kg bodyweight/day |
| | OECD 422 | Rat | Developmental NOAEL = 10 mg/kg bodyweight/day |
| Diphenyl oxide | OECD 414 | Rat | Not toxic to reproduction |

| Respiratory sensitization | Results |
|---------------------------|-------------------|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | No data available |

| Skin sensitization | Test Method | Species | Results |
|--------------------|-------------|------------|-----------------|
| 1,1-Diphenylethane | OECD 406 | Guinea pig | Not sensitizing |
| Diphenyl oxide | Read across | Human | Not sensitizing |

| Skin corrosion/irritation | Test Method | Species | Results |
|---------------------------|-------------|---------|----------------|
| 1,1-Diphenylethane | OECD 404 | Rabbit | Irritating |
| Diphenyl oxide | Read across | Rabbit | Not irritating |

| Specific target organ toxicity – repeated exposure (STOT-RE) | Route | Results |
|--|------------|------------------------------|
| 1,1-Diphenylethane | -- | No data available |
| Diphenyl oxide | Dermal | NOEL = 100 mg/kg/day |
| | Inhalation | NOEL = 4.9 ppm after 7 hours |
| | Oral | NOEL = 318 mg/kg/day |

| Specific target organ toxicity – single exposure (STOT-SE) | Results |
|--|-------------------|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | No data available |

11.2 Other information

See SECTION 16 for toxicity references.



SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

| Aquatic Toxicity | Test Method | Species | Results |
|--------------------|-------------|-----------------------|--|
| 1,1-Diphenylethane | OECD 201 | <i>S. subspicatus</i> | EC ₅₀ = 0.56 mg/L |
| | OECD 202 | <i>Daphnia sp.</i> | NOEC = 0.18 mg/L after 48 hours |
| | OECD 203 | <i>Danio rerio</i> | LC ₅₀ = 8.4 mg/L |
| Diphenyl oxide | OECD 201 | <i>P. subcapitata</i> | NOEC = 0.32 mg/L after 72 hours |
| | OECD 202 | <i>D. magna</i> | LC ₅₀ = 1.7 mg/L after 48 hours |
| | Read across | <i>O. mykiss</i> | LC ₅₀ = 4.2 mg/L after 96 hours |

| Terrestrial Toxicity | Results |
|----------------------|-------------------|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | No data available |

12.2 Persistence and degradability

| Biodegradation | Test Method | Results |
|--------------------|-------------|---|
| 1,1-Diphenylethane | -- | Not readily biodegradable |
| Diphenyl oxide | OECD 301D | 64% BOD after 5 days, readily biodegradable |

12.3 Bioaccumulative potential

| Bioconcentration Factor (BCF) | Results |
|-------------------------------|-----------------|
| 1,1-Diphenylethane | BCF = 540 – 620 |
| Diphenyl oxide | BCF = 450 |

| Partition Coefficient n-octanol / water (Log K _{ow}) | Results |
|--|-------------------|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | No data available |

12.4 Mobility in soil

| Soil Mobility | Results |
|--------------------|-------------------|
| 1,1-Diphenylethane | No data available |
| Diphenyl oxide | LogKoc = 3.3 |

12.5 Results of PBT and vPvB assessment

| Chemical | Results |
|--------------------|-----------------------------------|
| 1,1-Diphenylethane | This substance is not PBT / vPvB. |
| Diphenyl oxide | This substance is not PBT / vPvB. |

12.6 Other adverse effects

No further information is available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods



This unused material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets U.S. EPA (40 CFR Subpart C) criteria for being toxic, corrosive, ignitable, or reactive. This material could also become hazardous waste if it is mixed with or meets a listed hazardous waste. If it is a hazardous waste, regulations in 40 CFR 262-266, 268, 270, and 279 may apply.

SECTION 14. TRANSPORTATION INFORMATION

14.1 UN Number

UN 3082

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)

14.3 Transport hazard class

9

14.4 Packing group

III

14.5 Environmental hazards

Very toxic to aquatic life with long lasting effects.

14.6 Special precautions for user

See SECTION 2 for special precautions.

14.7 Transport in bulk per Annex II of MARPOL73/78 and the IBC Code

P

14.8 Other transport information

United States Department of Transportation (DOT)

Not regulated

Canada Transport - Transportation of Dangerous Goods (TDG)

UN Number: UN3082
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)
Transport hazard class: MIXTURE)
Packing group: 9
III

International Carriage of Dangerous Goods by Inland Waterways (AND)

UN Number: UN3082
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)
Transport hazard class: MIXTURE)
Packing group: 9
III

International Carriage of Dangerous Goods by Rail (RID)

UN Number: UN3082
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)
Transport hazard class: MIXTURE)
Packing group: 9
III

International Carriage of Dangerous Goods by Road (ADR)

UN Number: UN3082



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UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)
Transport hazard class: 9
Packing group: III

International Civil Aviation Organization (ICAO)
Not regulated

International Maritime Dangerous Goods Code (IMDG Code)

UN Number: UN3082
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS LIQUID, SOLID, N.O.S. (1,1-DIPHENYLETHANE AND DIPHENYL OXIDE MIXTURE)
Transport hazard class: 9
Packing group: III
MARPOL73/78 and IBC Code: P
Emergency schedules (EmS): F-A, S-F
Special provisions: 274; 335; 969

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Australia Inventory (AICS)

All the ingredients are listed.

California Proposition 65

This product does not contain any chemicals known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Canadian Domestic Substances List/Non-Domestic Substances List (DSL/NDSL)

All the ingredients are listed.

China Inventory of Existing Chemical Substances (IECSC)

All the ingredients are listed.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantity

This product is not reportable under 40 CFR Part 302.4.

International Agency for Research on Cancer (IARC)

None of the ingredients are listed.

Japan Existing and New Chemical Substances (ENCS)

All the ingredients are listed.

Korean Existing and Evaluated Chemical Substances (KECL)

All the ingredients are listed.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List

This product contains 27.0% 1,1-Diphenylethane, and it is cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All the ingredients are listed.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355)

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.



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SARA Title III Section 313 (40 CFR Part 372)

This product contains 27.0% 1,1-Diphenylethane, and is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 that is listed in 40 CFR 372.

SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370)

Hazardous categories for this product are:

Acute = Yes Chronic = No Fire = No Pressure = No Reactive = No

United States Toxic Substances Control Act (TSCA)

All the ingredients are listed.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been conducted.

SECTION 16.

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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 PROCESS. 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, 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.

XCELTHERM® is a registered trademark of Radco Industries, Inc.

Toxicological References

"1,1-Diphenylethane." *National Center for Biotechnology Information. PubChem Compound Database.* U.S. National Library of Medicine. Web. 22 May 2017.

"Diphenyl Ether." *Registration Dossier.* European Chemicals Agency, 12 Apr. 2017. Web. 22 May 2017.

Definitions

| | |
|------------------|--|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| Aquatic Acute 1 | Aquatic hazard, acute toxicity, category 1 |
| EC number | European Community number |
| EC ₅₀ | Concentration that effects 50% of the test population. |
| EU | European Union |
| Eye Irrit. 2 | See Eye irritation, category 2 definition. |
| H319 | Causes serious eye irritation |
| H400 | Very toxic to aquatic life |
| HMIS | Hazardous Materials Identification System |
| IARC | International Agency for Research on Cancer |
| LC ₅₀ | Lethal concentration that causes 50% death in test population. |
| LD ₅₀ | Lethal dose that causes 50% death in test population. |
| NFPA | National Fire Protection Association |
| NOAEL | No observed adverse effect level |
| NTP | National Toxicology Program, United States Department of Health and Human Services |
| OECD | Organisation for Economic Co-operation and Development |
| OECD 201 | OECD Guideline 201: Freshwater Alga and Cyanobacteria, Growth Inhibition Test |
| OECD 202 | OECD Guideline 202: Daphnia sp. Acute Immobilisation Test |
| OECD 203 | OECD Guideline 203: Fish, Acute Toxicity Test |



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| | |
|-----------|---|
| OECD 301D | OECD Guideline 301D: Ready Biodegradability Closed Bottle |
| OECD 404 | OECD Guideline 404: Acute Dermal Irritation/Corrosion |
| OECD 406 | OECD Guideline 406: Skin Sensitization Test |
| OECD 414 | OECD Guideline 414: Prenatal Development Toxicity Study |
| OECD 422 | OECD Guideline 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test |
| OECD 471 | OECD Guideline 407: Bacterial Reverse Mutation Test |
| OSHA | United States Department of Labor Occupational Safety and Health Administration |
| PBT | Persistence Bioaccumulation and Toxicity |