

HEALTH & ENVIRONMENTAL SCIENCES INFORMATION
INDUSTRIAL HYGIENE INFORMATION

DI-0002-7145

DOWTHERM® A HEAT TRANSFER AGENT

This information applies to the stated material and may not apply to dilutions or formulations of the material.

SYNONYMS: EUTECTIC MIXTURE OF DIPHENYL AND DIPHENYL OXIDE
73% DIPHENYL OXIDE
27% DIPHENYL

CHEMICAL AND PHYSICAL PROPERTIES

This data compiled from various sources and not verified.

APPEARANCE: STRAW-COLORED LIQUID

BOILING POINT: 257°C

MELTING POINT: 13.4°C

VAPOR PRESSURE: 0 MMHG @ 20°C

9.46 MMHG @ 115°C

FLASH POINT: 124°C

FLAMMABILITY LIMITS: 0.5% - 6.2%

ODOR DESCRIPTION: AROMATIC/THRESHOLD 0.1 - 1.0 PPM

POTENTIAL HEALTH EFFECTS

(REVISED: 01/09/84)

This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

EYE

- May cause pain.
- May cause slight transient (temporary) eye irritation.
- Vapors may irritate eyes.

SKIN

- Prolonged or repeated exposure may cause skin irritation, even a burn.
- A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
- The dermal LD50 has not been determined.

INGESTION

- Single dose oral toxicity is low.
- The oral LD50 for rats is >2000 mg/kg.
- Amounts ingested incidental to industrial handling are not likely to cause injury; however ingestion of larger amounts may cause injury.
- Observations in animals include liver and kidney injury.
- Ingestion of large amounts may cause headache, vomiting and diarrhea.

ACUTE INHALATION EFFECTS

- Excessive exposure may cause irritation to upper respiratory tract and lungs.
- Signs and symptoms of excessive exposure may be nausea and/or vomiting.

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DF-0123-3187

ISOPAR E

This information applies to the stated material and may not apply to dilutions or formulations of the material.

COMPOSITION ISOPARAFFINIC PETROLEUM SOLVENT WHICH IS A COMPLEX MIXTURE OF PETROLEUM HYDROCARBONS.

CHEMICAL AND PHYSICAL PROPERTIES

This data compiled from various sources and not verified.

APPEARANCE: clear colorless liquid

MOLECULAR WEIGHT: 123 (average)

BOILING POINT: 116-139 C

VAPOR PRESSURE: 30 mm Hg @ 25 C

FLASH POINT: 7 C < 45 F (Tag Closed Cup)

AUTOIGNITION TEMP: 415 C

EXPLOSIVE LIMITS: 0.9 - 7.0% @ 25 C

STABILITY/REACTIVITY: Stable. Incompatible with strong oxidants like liquid chlorine, concentrated oxygen, sodium or calcium hypochlorite.

POTENTIAL HEALTH EFFECTS

(REVISED: 04/02/85)

This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

EYE

- May cause slight transient (temporary) eye irritation.
- Corneal injury is unlikely.
- Vapors may irritate eyes.

SKIN

- Prolonged or repeated exposure may cause skin irritation.
- May cause drying or flaking of skin.
- A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
- The LD50 for skin absorption in rabbits is > 10,000 mg/kg.

INGESTION

- Single dose oral toxicity is low.
- The oral LD50 for rats is > 10,000 mg/kg.
- No hazards anticipated from ingestion incidental to industrial exposure.
- If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia, a condition caused by petroleum and petroleum-like solvents.

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ISOPAR E

ACUTE INHALATION EFFECTS

- A single prolonged (hours) excessive inhalation exposure may cause adverse effects.
- Signs and symptoms of excessive exposure may be central nervous system effects.
- Signs and symptoms of excessive exposure may be anesthetic or narcotic effects.
- Excessive exposure may cause irritation to upper respiratory tract.
- Vapors may irritate eyes.

SUBCHRONIC EFFECTS

- Observations in animals include looney effects after exposure to a similar material.
- Signs and symptoms of excessive exposure may be central nervous system, anesthetic or narcotic effects.

CHRONIC EFFECTS / CARCINOGENICITY

- Petroleum solvents are not considered to have carcinogenic potential.

TERATOGENIC EFFECTS

- No relevant information found.

REPRODUCTIVE EFFECTS

- No relevant information found.

MUTAGENICITY

- No relevant information found.

EXPOSURE GUIDELINES

- None established

HANDLING PRECAUTIONS AND PROTECTIVE EQUIPMENT (REVISED: 03/29/85)

These recommended precautions are intended for use during normal operating conditions; emergency conditions could require additional precautions. (For an explanation of the low, moderate and high potential exposure categories see last page of this report or contact your industrial hygienist.)

EYE

- LOW - Use safety glasses.
- MODERATE - Use safety glasses.
- If vapor exposure causes eye irritation, use a full-face,

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DR-0006-7834

CHLORINE

This information applies to the stated material and may not apply to dilutions or formulations of the material.

SYNONYMS: CHLORINE, PRIMARY (GAS)
CHLORINE, LIQUID
CHLORINE, GASEOUS H.P.

CHEMICAL AND PHYSICAL PROPERTIES

This data compiled from various sources and not verified.

APPEARANCE: GREEN-YELLOW GAS OR AMBER OILY LIQUID UNDER PRESSURE

MOLECULAR WEIGHT: 70.91

BOILING POINT: -34.50 @ 760 MMHG

MELTING POINT: -101C

VAPOR PRESSURE: 6.70 atm @ 20C; 8.66 atm @ 30C; 3.62 atm @ 0C; 37.96 atm @ 100C

FLASH POINT: NON-COMBUSTIBLE @ ATMOSPHERIC PRESSURE

FLAMMABILITY LIMITS: NONE: FIRE HAZARD IF IN CONTACT WITH REDUCING AGENTS

EXPLOSIVE LIMITS: FORMS EXPLOSIVE MIXTURE WITH HYDROGEN

STABILITY/REACTIVITY: VERY REACTIVE, STRONG OXIDIZING AGENT

ODOR DESCRIPTION: HIGHLY PUNGENT, IRRITATING, SUFFOCATING

POTENTIAL HEALTH EFFECTS

(REVISED: 07/01/85)

This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

EYE

- May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN

- Short single exposure may cause severe skin burns.
- The dermal LD50 has not been determined.

INGESTION

- Ingestion is unlikely due to physical state.

ACUTE INHALATION EFFECTS

- A single brief (minutes) inhalation exposure to easily attainable concentrations may cause serious adverse effects, even death.
- Excessive exposure may cause severe irritation to upper respiratory tract and lungs.
- Excessive exposure may cause lung injury.
- The LC50 for mice was 137 ppm and for rats 293 ppm for 1 hour.
- Excessive exposure to chlorine gas has been known to also cause erosion of tooth enamel.

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TR-8000-0006

POLYETHYLENES

This information applies to the stated material and may not apply to dilutions or formulations of the material.

SYNONYMS: DOWLEX* POLYETHYLENE RESINS

CHEMICAL AND PHYSICAL PROPERTIES

This data compiled from various sources and not verified.

POTENTIAL HEALTH EFFECTS

(REVISED: 04/17/85)

This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

EYE

- Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN

- Essentially nonirritating to skin.
- Mechanical injury only.
- A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION

- May cause choking if swallowed.
- Single dose oral toxicity is believed to be very low.
- Considered physiologically inert.

ACUTE INHALATION EFFECTS

- Vapors are unlikely due to physical properties.
- Single exposure to dust is not likely to be hazardous.

SUBCHRONIC EFFECTS

- No relevant information found.

CHRONIC EFFECTS / CARCINOGENICITY

- Subcutaneous implantation of all forms, except the powder, of polyethylene has been reported to result in local sarcomas in animals.

TERATOGENIC EFFECTS

- No relevant information found.

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