**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Ingestion** May be harmful if swallowed.

### 4. FIRST AID MEASURES

**General advice**
Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing give artificial respiration.

**In case of skin contact**
Wash with soap and plenty of water.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water.

### 5. FIRE-FIGHTING MEASURES

**Flammable properties**
Flash point: 87 °C (199 °F) - closed cup
Ignition temperature: 301 °C (574 °F)

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus for fire fighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Avoid breathing vapors, mist or gas.

**Environmental precautions**
Do not let product enter drains.

**Methods for cleaning up**
Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

**Handling**
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Storage**
Keep container tightly closed in a dry and well-ventilated place.
Store under inert gas, hygroscopic.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment
- Respiratory protection
  Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEX (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection
  For prolonged or repeated contact use protective gloves.
- Eye protection
  Safety glasses
- Hygiene measures
  General industrial hygiene practice

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: liquid, clear
- Colour: colourless

**Safety data**
- pH: no data available
- Melting point: 18.4 °C (65.1 °F)
- Boiling point: 189 °C (372 °F) at 1,013 hPa (760 mmHg)
- Flash point: 87 °C (189 °F) - closed cup
- Ignition temperature: 301 °C (574 °F)
- Lower explosion limit: 3.5 % (V)
- Upper explosion limit: 42 % (V)
- Vapour pressure: 0.55 hPa (0.41 mmHg) at 29 °C (84 °F)
- Density: 1.1 g/cm³
- Water solubility: completely miscible
- Partition coefficient: n-octanol/water - log Pow = -2.03
- Relative vapour density: 2.70 (Air = 1.0)

10. STABILITY AND REACTIVITY

**Storage stability**
Stable under recommended storage conditions.

**Materials to avoid**
Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- LD₅₀ Oral - rat: 14,500 mg/kg
- LC₅₀ Inhalation - rat: 4 h - 40250 ppm
- LD₅₀ Dermal - rabbit: > 5,000 mg/kg

**Irritation and corrosion**
- Skin - rabbit: Mild skin irritation - 24 h
- Eyes - rabbit: Mild eye irritation

**Sensitisation**
No data available

**Chronic exposure**
- Carcinogenicity - rat - Oral: Tumorigenic/Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.
- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
- Genotoxicity in vitro - mouse - lymphocyte: Cytogenetic analysis
- Genotoxicity in vitro - mouse - lymphocyte: Mutation in mammalian somatic cells.
- Genotoxicity in vivo - rat - Intrapertitoneal: Cytogenetic analysis
- Genotoxicity in vivo - mouse - Intrapertitoneal: DNA damage
- Developmental Toxicity - mouse - Intrapertitoneal: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.
- Reproductive toxicity - rat - Intrapertitoneal: Effects on Fertility: Post-implantation mortality (e.g., dead and or resorbed implants per total number of implants).
- Reproductive toxicity - rat: Subcutaneous: Effects on Fertility: Post-implantation mortality (e.g., dead and or resorbed implants per total number of implants).
- Effects on Fertility: Litter size (e.g., 4 fetuses per litter; measured before birth).
- Reproductive toxicity - mouse: Oral

Sigma - DB418
Sigma-Aldrich Corporation
www.sigma-aldrich.com
Delivery 0634127100-000020 Purchase Order CC/121009/PARENTEAU
12. ECOLOGICAL INFORMATION

Elimination Information (persistence and degradability)
No data available

Ecotoxicity effects
Toxicity to fish
LC50 - Pimephales promelas (fathead minnow) - 34,030 mg/l - 96 h
LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h
Toxicity to daphnia
EC50 - Daphnia pulex (Water flea) - 27,500 mg/l
and other aquatic invertebrates.
Toxicity to algae
EC50 - Lemnalis macrocarpa (Bluegill) - > 400,000 mg/l - 96 h

Further information on ecology
No data available

13. DISPOSAL CONSIDERATIONS

Product
Contact a licensed professional waste disposal service to dispose of this material. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 1993 Class: CBL Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION