# SAFETY DATA SHEET

**Revision date** 07/27/2026 **Revision Number** 1

## 1. Identification

**Product identifier**

**Product Name** Liandox 225

**Other means of identification**

**Product Code(s)** Liandox 225

**UN number or ID number** UN3103

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended use** Polymerization initiator Use of the substance/preparation

**Restrictions on use** No information available

**Details of the supplier of the safety data sheet**

**Supplier Address**
1665 Enterprise Parkway
Twinsburg, OH 44087

**Emergency telephone number**

**Emergency Telephone** CHEMTREC 1-800-424-9300

## 2. Hazard(s) identification

**Classification of the substance or mixture**

| | |
|---|---|
| Flammable liquids | Category 4 |

**Hazards not otherwise classified (HNOC)**
Not applicable

**Label elements**

Warning

**Hazard statements**
Combustible liquid.

**Precautionary Statements - Prevention**
Keep away from flames and hot surfaces. - No smoking.
Wear protective gloves, eye protection and face protection.

**Precautionary Statements - Response**

In case of fire: Use CO2, dry chemical, or foam to extinguish.

**Precautionary Statements - Storage**
Store in a well-ventilated place. Keep cool.

**Precautionary Statements - Disposal**
Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**
No information available.

**Other information**
May be harmful if swallowed. May be harmful in contact with skin. Toxic to aquatic life with long lasting effects.

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

| Chemical name | CAS No. | Weight-% | Trade secret |
|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | 78-63-7 | 92 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

**Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Ingestion** Rinse mouth.

**Self-protection of the first aider** Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Effects of Exposure** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling** Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

## 8. Exposure controls/personal protection

**Control Parameters**

**Exposure Limits** This product, as supplied, contains materials that do not have reportable occupational exposure limits or are not subject to the reporting requirements of the local jurisdiction.

**Biological occupational exposure limits** This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand protection** Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

**Skin and body protection** Antistatic boots. Chemical resistant apron. Wear fire/flame resistant/retardant clothing. Wear suitable protective clothing.

**Respiratory protection** Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Color** | white |
| **Odor (includes odor threshold)** | Characteristic |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **Melting point / freezing point** | 1 - 10 °C / 33.8 - °F | None known |
| **Boiling point (or initial boiling point or boiling range)** | No data available | None known |
| **Flammability** | No data available | None known |
| **Flammability Limit in Air** | | None known |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Flash point** | 68 °C / 154.4 °F | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | 80 °C / 176 °F | None known |
| **SADT (°C)** | No data available | None known |
| **pH** | No data available | None known |
| **pH (as aqueous solution)** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Solubility** | No data available | None known |

| | | |
|---|---|---|
| **Water solubility** | Insoluble in water | None known |
| **Partition coefficient n-octanol/water (log value)** | No data available | None known |
| **Vapor pressure (includes evaporation rate)** | 0 | None known |
| **Evaporation rate** | No data available | None known |
| **Density and/or relative density** | No data available | None known |
| **Bulk density** | No data available | |
| **Liquid Density** | No data available | |
| **Relative vapor density** | No data available | None known |
| **Particle characteristics** | | None known |
| **Particle Size** | No data available | |
| **Particle Size Distribution** | No data available | |

**Other information**

| | |
|---|---|
| Explosive power | None |
| Explosive power | None |

## 10. Stability and reactivity

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

**Hazardous polymerization** Hazardous polymerization does not occur.

**Conditions to avoid** Heat, flames and sparks.

**Incompatible materials** Iron. Copper. Acids. Alkali. Heavy metals. Do not mix with peroxide accelerators. use only stainless steel 316, PP, polyethylene or glass lined equipment.

**Hazardous decomposition products** Burning may produce carbon monoxide/dioxide, acetone, methane, ethane, and other hazardous products.

## 11. Toxicological information

**Information on likely routes of exposure**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** May be harmful in contact with skin.

**Ingestion** Specific test data for the substance or mixture is not available.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Acute toxicity** No information available.

**Numerical measures of toxicity**

The following ATE values have been calculated for the mixture

| | | |
|---|---|---|
| ATEmix (inhalation-gas) | 99,999.00 | ppm |
| ATEmix (inhalation-vapor) | 99,999.00 | mg/l |

ATEmix (inhalation-dust/mist) 99,999.00 mg/l

**Oral LD50** 3200 mg/kg (rat)
**Dermal LD50** 4100 mg/kg (rabbit)

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane 78-63-7 | > 2000 mg/kg ( Rat ) | = 4100 mg/kg ( Rabbit ) | - |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy ) hexane 78-63-7 | - | LC50: =4.5mg/L (96h, Oryzias latipes) | - | - |

**Persistence and degradability** No information available.

**Bioaccumulation**

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane<br>78-63-7 | 7.34 |

**Other adverse effects** No information available.

## 13. Disposal considerations

**Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

**DOT**

**Notes** **, ORGANIC PEROXIDE TYPE C, LIQUID (2,5-dimethyl-2,5-di(t-butyl-peroxy)hexane, 94%)**

**UN number or ID number** UN3103
**Proper shipping name** Organic peroxide type C, liquid
**Transport hazard class(es)** 5.2
**DOT Marine Pollutant** I
**Marine pollutant** 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane
**Description** UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, Marine pollutant

**TDG**

**Notes** **Forbidden for transport by passenger vessel. Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.**

**UN number or ID number** UN3103
**UN proper shipping name** Organic peroxide type C, liquid
**Transport hazard class(es)** 5.2
**Packing group** II
**Marine pollutant name** 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane.
**Description** UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, II

**MEX**

**Notes** **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.**

**UN number or ID number** UN3103
**UN proper shipping name** Organic peroxide type C, liquid
**Transport hazard class(es)** 5.2
**Technical Name** 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane
**Description** UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2
**Special Provisions** 122, 195, 274, 323

**ICAO (air)**

**Notes** **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.**

| | |
|---|---|
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2 |
| **Special Provisions** | A150, A20 |

**IATA**

| | |
|---|---|
| **Notes** | **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.** |
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **Technical Name** | 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2 |
| **Special Provisions** | A20, A150, A802 |
| **ERG Code** | 5L |

**IMDG**

| | |
|---|---|
| **Notes** | **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.** |
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **EmS-No.** | F-J, S-R |
| **Special Provisions** | 122, 195, 274 |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, Marine pollutant |

**RID**

| | |
|---|---|
| **Notes** | **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.** |
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **Classification code** | P1 |
| **Special Provisions** | 122, 274 |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, Environmentally Hazardous |

**ADR**

| | |
|---|---|
| **Notes** | **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.** |
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **Classification code** | P1 |
| **Tunnel restriction code** | (D) |
| **Special Provisions** | 122, 274 |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, (D), Environmentally Hazardous |

**ADN**

| | |
|---|---|
| **Notes** | **Please confirm that the Technical Name assigned matches the way it is displayed in the Organic Peroxide Table. Manual entry may be required.** |
| **UN number or ID number** | UN3103 |
| **UN proper shipping name** | Organic peroxide type C, liquid |
| **Transport hazard class(es)** | 5.2 |
| **Classification code** | P1 |
| **Special Provisions** | 122, 274 |
| **Description** | UN3103, Organic peroxide type C, liquid (2,5-dimethyl-2,5di(t-butyl-peroxy) hexane), 5.2, Environmentally Hazardous |
| **Ventilation** | VE01 |

**Equipment Requirements** PP, EX, A

## 15. Regulatory information

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

| Chemical name | TSCA | DSL | NDSL | EINECS/ELINCS | ENCS | IECSC | KECL | PICCS | AIIC | NZIoC |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,5-dimethyl-2,5di (t-butyl-peroxy) hexane | X | X | | X | X | X | X | X | X | Does not have an individual approval but may be used under an appropriate group standard |

| Chemical name | CAS No. | Inventory Listing Status | Commercial Activity Designation |
|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | 78-63-7 | Present | Active |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AIIC** - Australian Inventory of Industrial Chemicals
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CAA (Clean Air Act)**
This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**
This product does not contain any substances regulated under applicable state right-to-know regulations

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. Other information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health hazards** 2 | **Flammability** 2 | **Instability** 0 | **Special hazards** - |
| **HMIS** | **Health hazards** 2 | **Flammability** 2 | **Physical hazards** 0 | **Personal protection** X |

**Key or legend to abbreviations and acronyms used in the safety data sheet**

| **Legend** | **Section 8: Exposure controls/personal protection** | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | Sk* | Skin designation |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

| | |
|---|---|
| **Revision date** | 07/27/2026 |
| **Revision Note** | No information available. |

**Disclaimer**

**Information given herein is offered in good faith as accurate, but without guarantee. The conditions of use and suitability of the product for an application is beyond our control. All risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind of nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of this product. Appropriate warnings and safe handling procedures should be provided to handlers and users.**

**End of Safety Data Sheet**

**International Inventories**

| Chemical name | TSCA | DSL | NDSL | EINECS/ELINCS | ENCS | IECSC | KECL | PICCS | AIIC | NZIoC |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | X | X | | X | X | X | X | X | X | Does not have an individual approval but may be used under an appropriate group standard |

| Chemical name | CAS No. | Inventory Listing Status | Commercial Activity Designation |
|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | 78-63-7 | Present | Active |

| Chemical name | Inventory - United States - Section 8(b) Inventory (TSCA) |
|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | Present Active |

| Chemical name | TSCA | DSL/NDSL | EINECS/ELINCS | ENCS | IECSC | KECL | PICCS | AIIC | NZIoC |
|---|---|---|---|---|---|---|---|---|---|
| 2,5-dimethyl-2,5di(t-butyl-peroxy) hexane | X | X | X | X | X | X | X | X | Does not have an individual approval but may be used under an appropriate group standard |

**US SDS version information - AGHS**

UL release:
GHS Revision 7
2025 Q1

**United States of America** Full process, including GHS and Transportation Wizards

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health hazards** | 2 | **Flammability** | 2 | **Instability** | 0 | **Special hazards** - |
| **HMIS** | **Health hazards** | 2 | **Flammability** | 2 | **Physical hazards** | 0 | **Personal protection** X |
| **HMIS** | | | | | | | |