1. Identification

Product Name: Dibenzoyl peroxide
Cat No.: B274-1LB
Synonyms: Benzoyl peroxide; BPO; Cadet®; Lucidol®; Perkadox® L-W75
Recommended Use: Laboratory chemicals.
Uses advised against: No Information available

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type C</td>
<td>Organic peroxides</td>
</tr>
<tr>
<td>Category 2</td>
<td>Serious Eye Damage/Eye Irritation</td>
</tr>
<tr>
<td>Category 1</td>
<td>Skin Sensitization</td>
</tr>
<tr>
<td>Category 3</td>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td></td>
<td>Target Organs - Respiratory system.</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Heating may cause a fire
May cause an allergic skin reaction
Causes serious eye irritation
May cause respiratory irritation
Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/Store away from clothing/ other combustible materials
Keep only in original container
Wear protective gloves/protective clothing/eye protection/face protection

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Protect from sunlight
Store away from other materials

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
None identified

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>94-36-0</td>
<td>75</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>25</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is not required. If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion  Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects  May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician  Treat symptomatically

### 5. Fire-fighting measures

| Suitable Extinguishing Media | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable Extinguishing Media | Do not use halogenated extinguishing agents or foam |
| Flash Point | No information available |
| Method | No information available |
| Autoignition Temperature | 380 °C / 716 °F |

### Specific Hazards Arising from the Chemical

In the event of fire, cool tanks with water spray. Risk of explosion by shock, friction, fire or other sources of ignition. Oxidizer: Contact with combustible/organic material may cause fire. Dry residue is explosive. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. Contact with metals may evolve flammable gas.

Hazardous Combustion Products  Carbon monoxide (CO) Carbon dioxide (CO₂)

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>OX</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

| Personal Precautions | Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Environmental Precautions | Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. |
| Methods for Containment and Clean Up | Keep combustibles (wood, paper, oil, etc) away from spilled material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Avoid dust formation. Keep wetted with water. After cleaning, flush away traces with water. |

### 7. Handling and storage

| Handling | Ensure adequate ventilation. Pay attention to flashback. Keep container tightly closed. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Keep away from clothing and other combustible materials. |
| Storage | Keep container tightly closed. Keep in properly labeled containers. Protect from sunlight and store in well-ventilated place. Do not store near combustible materials. Keep away from heat and sources of ignition. |
8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoil peroxide</td>
<td>TWA: 5 mg/m³</td>
<td>(Vacated) TWA: 5 mg/m³</td>
<td>IDLH: 1500 mg/m³</td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and immediately after handling the product.

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Eye/face Protection</th>
<th>Skin and body protection</th>
<th>Respiratory Protection</th>
</tr>
</thead>
</table>
| Tightly fitting safety goggles. | Long sleeved clothing. Impervious gloves. | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>104 - 106 °C / 219.2 - 222.8 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>380 °C / 716 °F</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C14H10O4</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>242.23</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactive Hazard
Yes

Stability
Organic peroxide. Hazardous decomposition may occur.

Conditions to Avoid
Incompatible Materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Component Information
Toxicologically Synergistic
No information available

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

Irritation
Irritating to eyes and skin

Sensitization
May cause sensitization by skin contact

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>94-36-0</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
Not mutagenic in AMES Test

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
Respiratory system

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information
No information available

Other Adverse Effects
See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity
Do not empty into drains.

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available.

Mobility

13. Disposal considerations
Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

- **UN-No**: UN3104
- **Proper Shipping Name**: ORGANIC PEROXIDE TYPE C, SOLID
- **Proper technical name**: (DIBENZOYL PEROXIDE 67-75%)
- **Hazard Class**: 5.2
- **Packing Group**: II

#### TDG

- **UN-No**: UN3104
- **Proper Shipping Name**: ORGANIC PEROXIDE TYPE C, SOLID
- **Hazard Class**: 5.2
- **Packing Group**: II

#### IATA

- **UN-No**: UN3104
- **Proper Shipping Name**: ORGANIC PEROXIDE TYPE C, SOLID
- **Hazard Class**: 5.2
- **Packing Group**: II

#### IMDG/IMO

- **UN-No**: UN3104
- **Proper Shipping Name**: ORGANIC PEROXIDE TYPE C, SOLID
- **Hazard Class**: 5.2
- **Packing Group**: II

### 15. Regulatory information

All of the components in the product are on the following Inventory lists: Australia X = listed China Canada The product is classified and labeled according to EC directives or corresponding national laws The product is classified and labeled in accordance with Directive 1999/45/EC Europe TSCA Korea Philippines

#### International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>202-327-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-791-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).

#### U.S. Federal Regulations

- **TSCA 12(b)**: Not applicable

#### SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>94-36-0</td>
<td>75</td>
<td>1.0</td>
</tr>
</tbody>
</table>
SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes or No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Clean Water Act Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>-</td>
<td>TQ: 7500 lb</td>
</tr>
</tbody>
</table>

CERCLA Not applicable

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

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

- C Oxidizing materials
- D2B Toxic materials
- F Dangerously reactive material

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com