# SAFETY DATA SHEET

**According to the Global Harmonized System, GHS and Hazard Communication Standard, HCS**

# BP150 POWDER HARDENER - Dibenzoyl Peroxide Powder
# BP100 PASTE HARDENER - Dibenzoyl Peroxide Paste

**SDS Number: 16001 ©**

Version 1 Revision Date : 01/07/2024 Issue Date : 04/05/2016 Date of Previous Issue : N/A

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Information:**

| | |
|---|---|
| Trade name | : BP150 Powder Hardener and BP100 Paste Hardener |
| Product usage | : Curing Agent - Polymer Reaction Catalyst |
| Supplier details | : Ortholam Inc.<br>Richmond<br>Virginia 23238<br>USA |
| Telephone | : +1-804-318-6042 |
| E-mail address | : info@ortholam.us |
| Emergency telephone | : 24 hours:+1-804-318-6042 |

## 2. HAZARDS IDENTIFICATION

**GHS Classification**

Organic peroxides, Type E
Serious eye damage/eye irritation, Category 2B
Skin sensitization, Category 1
Acute aquatic toxicity, Category 1
Chronic aquatic toxicity, Category 3

**GHS-Labeling**

Symbol(s) :

Signal Word : Warning

| | | | |
|---|---|---|---|
| Hazard Statements | : | H242 | Heating may cause a fire. |
| | | H317 | May cause an allergic skin reaction. |
| | | H320 | Causes eye irritation. |
| | | H400 | Very toxic to aquatic life. |
| | | H412 | Harmful to aquatic life with long lasting effects. |
| Precautionary Statements | : | **Prevention:** | |
| | | P220 | Keep away from dirt, rust, chemicals in particular. |
| | | P234 | Keep only in original packaging. |
| | | P235 | Keep cool. |
| | | P273 | Avoid release to the environment. |
| | | P280 | Wear protective gloves/ eye protection/ face protection. |
| | | **Storage:** | |
| | | P403 | Store in a well-ventilated place. |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous ingredients**

| Chemical Name | CAS-No. | GHS Classification | Content [%] |
|---|---|---|---|
| Dibenzoyl peroxide | 94-36-0 | Org. Perox. B; H241<br>Eye Dam./Irrit. 2B; H320<br>Skin Sens. 1; H317<br>Aquatic Acute 1; H400<br>M-Factor (Acute): 10 | >= 50 - < 70 |
| Dipropyleneglycol dibenzoate | 27138-31-4 | Acute Tox. 5; H303<br>Acute Tox. 5; H313<br>Aquatic Chronic 2; H411 | >= 20 - < 30 |
| zinc distearate | 557-05-1 | Acute Tox. 5; H313<br>Aquatic Acute 1; H400 | >= 1 - < 10 |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Inhalation : Consult a physician after significant exposure.

Skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
If skin irritation persists, call a physician.

Eye contact : Rinse with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Obtain medical attention.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

**Notes to physician**

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Treatment : Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Specific hazards during fire fighting / Specific hazards arising from the chemical | : | CAUTION: reignition may occur.<br>Supports combustion.<br>Water spray may be ineffective unless used by experienced firefighters.<br>Heating may cause decomposition with release of toxic fumes.<br>Do not allow run-off from fire fighting to enter drains or water courses. |
| Combustion products | : | Fire will produce smoke containing hazardous combustion products (see section 10). |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. |
| Further information | : | Use water spray to cool unopened containers.<br>Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |

See also Section 9. Physical and chemical properties: Safety data

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions | : | Use personal protective equipment.<br>Ensure adequate ventilation.<br>Remove all sources of ignition. |
| Environmental precautions | : | Prevent product from entering drains.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods for cleaning up / Methods for containment | : | Keep wetted with water.<br>Soak up with inert absorbent material and dispose of as hazardous waste.<br>Confinement must be avoided.<br>Pick up and arrange disposal without creating dust.<br>Keep in suitable, closed containers for disposal.<br>Never return spills in original containers for re-use. |
| Additional advice | : | For personal protection see section 8. |

## 7. HANDLING AND STORAGE

**Handling**

| | | |
|---|---|---|
| Advice on safe handling | : | For personal protection see section 8. |

Avoid formation of respirable particles.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Open containers carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
Avoid contact with skin, eyes and clothing.

| | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Use explosion protected equipment.<br>Provide appropriate exhaust ventilation at places where dust is formed.<br>Keep away from sources of ignition - No smoking.<br>No sparking tools should be used.<br>Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).<br>Do not cut or weld on or near this container even when empty.<br>Keep away from combustible material. |
| Temperature class | : | It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded. |

**Storage**

| | | |
|---|---|---|
| Requirements for storage areas and containers | : | No smoking.<br>Keep in a well-ventilated place.<br>Electrical installations / working materials must comply with the technological safety standards.<br>Keep only in original container.<br>Store away from other materials. |
| Maximum storage temperature: | : | 25 °C (77 °F) |
| Other data | : | No decomposition if stored and applied as directed. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls**
Explosion proof ventilation recommended.
Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protective equipment**

| | | |
|---|---|---|
| Respiratory protection | : | Handle in accordance with good industrial hygiene and safety practice. |
| Hand protection | : | butyl-rubber |

Neoprene

| | | |
|---|---|---|
| Eye protection | : | Tightly fitting safety goggles |
| Skin and body protection | : | Protective suit |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice.<br>When using do not eat or drink.<br>When using do not smoke.<br>Wash hands before breaks and at the end of workday.<br>Wash contaminated clothing before re-use. |

**Environmental exposure controls**

| | | |
|---|---|---|
| General advice | : | Prevent product from entering drains.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

| | | |
|---|---|---|
| Form | : | paste |
| Color | : | white |
| Odor | : | faint |
| Odor Threshold | : | No data available |

**Safety data**

| | | |
|---|---|---|
| pH | : | not determined |
| Melting point | : | No data available |
| Boiling point/boiling range | : | Decomposes below the boiling point. |
| Flash point | : | Above the SADT value |
| Evaporation rate | : | Not applicable |
| Flammability (solid, gas) | : | Decomposition products may be flammable. |
| Lower explosion limit | : | No data available |
| Upper explosion limit | : | No data available |
| Vapor pressure | : | not determined |
| Relative vapor density | : | 10.8 at 20 °C<br>Solvent, (Air = 1.0) |

| | | |
|---|---|---|
| Relative density | : | 1.2 at 20 °C |
| Water solubility | : | at 20 °C<br>partly soluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Autoignition temperature | : | Test method not applicable |
| Decomposition temperature | : | SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT. |
| Self-Accelerating decomposition temperature (SADT) | : | 50 °C |
| Viscosity, dynamic | : | at 20 °C<br>thixotropic |
| Viscosity, kinematic | : | thixotropic |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | Not classified as oxidizing. |
| Active Oxygen Content | : | 3.25 % |
| Organic peroxides | : | 50 % |

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Conditions to avoid | : | A high degree of confinement must be avoided.<br>Heat, flames and sparks.<br><br>For safety, store below:<br>25 °C<br>(77 °F) |
| Materials to avoid | : | Contact with incompatible materials will result in hazardous decomposition.<br>For queries regarding the suitability of other materials please contact the supplier. |

| | | |
|---|---|---|
| | | Do not mix with peroxide accelerators, unless under controlled processing.<br>Use only stainless steel 316, PP, polyethylene or glass-lined equipment.<br>Acids and bases<br>Iron<br>Copper<br>Reducing agents<br>Heavy metals<br>Rust |
| Hazardous decomposition products | : | Carbon oxides<br>Benzoic acid |
| Thermal decomposition | : | SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT. |
| Reactivity | : | Stable under normal conditions. |
| Chemical stability | : | Stable under recommended storage conditions. |
| Hazardous reactions | : | No dangerous reaction known under conditions of normal use. |
| Self-Accelerating decomposition temperature (SADT) | : | 50 °C (122 °F) |

## 11. TOXICOLOGICAL INFORMATION

**Product information:**

**Hazard Summary**

| | | |
|---|---|---|
| Inhalation | : | Thermal decomposition can lead to release of irritating gases and vapors. |
| Skin | : | May cause an allergic skin reaction.<br>May cause skin irritation. |
| Eyes | : | Causes serious eye irritation. |
| Ingestion | : | May cause irritation of the mucous membranes. |

**Toxicology Assessment**

| | | |
|---|---|---|
| Further information | : | No further data available. |

**Toxicology data for the ingredients:**

**Toxicology Assessment**

**Component: Dibenzoyl peroxide**

CMR effects : Carcinogenicity: Not carcinogenic.
Mutagenicity: Not mutagenic.
Teratogenicity: No toxicity to reproduction

**Test result**

**Component: Dibenzoyl peroxide**

Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat

Acute inhalation toxicity : LC50 (Rat): > 24.3 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Skin irritation : slight irritation

Eye irritation : Result: Irritation to eyes, reversing within 7 days

Germ cell mutagenicity

Genotoxicity in vitro : Result: No evidence of genotoxic effects in vitro.

Genotoxicity in vivo : Result: No evidence of genotoxic effects in vivo.

Reproductive toxicity/Fertility : Species: Rat, male
Application Route: Oral
General Toxicity Parent: NOAEL (No observed adverse effect level): 1,000 mg/kg body weight/day
Method: OECD Test Guideline 422

Species: Rat, females
Application Route: Oral
General Toxicity Parent: NOAEL (No observed adverse effect level): 500 mg/kg body weight/day
Method: OECD Test Guideline 422

Target Organ Systemic Toxicant - Single exposure : Routes of exposure: Ingestion
The substance or mixture is not classified as specific target organ toxicant, single exposure.

| | | |
|---|---|---|
| Target Organ Systemic Toxicant - Repeated exposure | : | Routes of exposure: Ingestion<br>The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| Aspiration toxicity | : | No aspiration toxicity classification |

**Component: Dipropyleneglycol dibenzoate**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Oral: 3,914 mg/kg<br>Species: Rat |
| Acute inhalation toxicity | : | LC50 (Rat): > 200 mg/l<br>Exposure time: 4 h |
| Acute dermal toxicity | : | LD50: 2,001 - 5,000 mg/kg<br>Species: Rat |
| Skin irritation | : | Result: No skin irritation |
| Sensitization | : | Result: Not sensitizing. |

**Component: zinc distearate**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50: > 5,000 mg/kg<br>Species: Rat |
| Acute dermal toxicity | : | LD50: > 2,000 - 5,000 mg/kg |
| Aspiration toxicity | : | No aspiration toxicity classification |

## 12. ECOLOGICAL INFORMATION

**Product information:**

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Additional ecological information | : | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.<br>Very toxic to aquatic life with long lasting effects.<br>Harmful to aquatic life with long lasting effects. |

**Ingredients:**

**Ecotoxicology Assessment**
**Component: Dibenzoyl peroxide**

| | | |
|---|---|---|
| Acute aquatic toxicity | : | Very toxic to aquatic organisms. |
| Chronic aquatic toxicity | : | This product has no known ecotoxicological effects. |

**Component: Dipropyleneglycol dibenzoate**

| | | |
|---|---|---|
| Chronic aquatic toxicity | : | Toxic to aquatic life with long lasting effects. |

**Component: zinc distearate**

Acute aquatic toxicity : Very toxic to aquatic life.

**Test result**

**Component: Dibenzoyl peroxide**

**Ecotoxicity effects**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50: 0.06 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50: 0.11 mg/l<br>Exposure time: 48 h<br>Species: Daphnia magna (Water flea) |
| Toxicity to algae | : | EC50: 0.06 mg/l<br>Exposure time: 72 h<br>Species: algea |
| M-Factor | : | 10 |
| Toxicity to bacteria | : | EC50: 35 mg/l<br>Species: Bacteria |

**Elimination information (persistence and degradability)**

| | | |
|---|---|---|
| Bioaccumulation | : | Bioconcentration factor (BCF): 66.6 |
| Biodegradability | : | Result: Inherently biodegradable. |

**Component: Dipropyleneglycol dibenzoate**

**Ecotoxicity effects**

| | | |
|---|---|---|
| Toxicity to fish | : | 3.7 mg/l<br>Exposure time: 96 h<br>Species: Pimephales promelas (fathead minnow) |
| Toxicity to daphnia and other aquatic invertebrates | : | 19.3 mg/l<br>Exposure time: 48 h<br>Species: Daphnia |
| Toxicity to algae | : | 4.9 mg/l<br>Exposure time: 72 h<br>Species: algae |

**Elimination information (persistence and degradability)**

Biodegradability : Result: Readily biodegradable.

**Component: zinc distearate**

**Ecotoxicity effects**

| | | |
|---|---|---|
| Toxicity to fish (Chronic toxicity) | : | NOEC: 0.172 mg/l<br>Exposure time: 30 d<br>Test Type: flow-through test<br>Information given is based on data obtained from similar substances. |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | Lowest observable effect level: 1 mg/l<br>Exposure time: 21 d<br>reproduction rate<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211<br>Information given is based on data obtained from similar substances. |

**Elimination information (persistence and degradability)**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable. |

## 13. DISPOSAL CONSIDERATIONS

| | | |
|---|---|---|
| Product | : | The product should not be allowed to enter drains, water courses or the soil.<br>Do not contaminate ponds, waterways or ditches with chemical or used container.<br>Hazardous waste<br>Dispose of contents/container in accordance with local regulation. |
| Contaminated packaging | : | Empty remaining contents.<br>Dispose of as unused product.<br>Do not burn, or use a cutting torch on, the empty drum.<br>Due to the high risk of contamination recycling/recovery is not recommended.<br>Follow all warnings even after the container is emptied. |

## 14. TRANSPORT INFORMATION

**International Regulation**

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3108 |
| Proper shipping name | : | Organic peroxide type E, solid<br>(Dibenzoyl peroxide) |
| Class | : | 5.2 |
| Subsidiary risk | : | HEAT |
| Packing group | : | Not Assigned |
| Labels | : | 5.2 (HEAT) |

| | | |
|---|---|---|
| Packing instruction (cargo aircraft) | : | 570 |
| Packing instruction (passenger aircraft) | : | 570 |
| Environmentally hazardous | : | no |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 3108 |
| Proper shipping name | : | ORGANIC PEROXIDE TYPE E, SOLID (Dibenzoyl peroxide) |
| Class | : | 5.2 |
| Packing group | : | Not Assigned |
| Labels | : | 5.2 |
| EmS Code | : | F-J, S-R |
| Marine pollutant | : | yes (Dibenzoyl peroxide) |

**Comment:** Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicle, rail cars or aircraft.

## 15. REGULATORY INFORMATION

**Notification status**

| | | |
|---|---|---|
| TSCA | : | YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption. |
| DSL | : | YES. All components of this product are on the Canadian DSL. |

This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard 29CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.
TSCA = Toxic Substances Control Act for the United States and Puerto Rico.

The customer is responsible for determining the PPE requirements for use with this material.

## 16. OTHER INFORMATION

**Full text of H-Statements**

| | | |
|---|---|---|
| H241 | : | Heating may cause a fire or explosion. |
| H242 | : | Heating may cause a fire. |
| H303 | : | May be harmful if swallowed. |
| H313 | : | May be harmful in contact with skin. |
| H317 | : | May cause an allergic skin reaction. |
| H320 | : | Causes eye irritation. |
| H400 | : | Very toxic to aquatic life. |
| H411 | : | Toxic to aquatic life with long lasting effects. |
| H412 | : | Harmful to aquatic life with long lasting effects. |

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication, but is not warranted to be accurate, regardless of the origination. The information provided is intended only as a guide for the safe handling, use, processing, storage, transportation, disposal and is not to be construed as a warranty or quality specification. Recipients are responsible to determine that the product is suitable for their circumstances. The information relates only to the specific product designated and may not be valid for the product used in combination with any other products, materials or process, unless specified in the text.