1. Identification of the substance / preparation and of the company / undertaking

**Product information**

Trade name: Protectosil® Degadeck® CSS BPO
Company: Evonik Corporation
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040

US: CHEMTREC EMERGENCY NUMBER: 800-424-9300
CANADA: CANUTEC EMERGENCY NUMBER: 613-996-6666

Product Regulatory Services: 973-929-8060

2. Hazards identification

*** EMERGENCY OVERVIEW ***

*Form-powder  Color-white  Odor-faint*

**DANGER**
ORGANIC PEROXIDE
MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
DANGER OF HAZARDOUS DECOMPOSITION IF EXPOSED TO HEAT OR CONTAMINATION.
May cause fire.
Very toxic to aquatic organisms.
Peroxides and peroxide decomposition products are flammable and can ignite with explosive force if confined.
Dust can form explosive mixtures with air.

**Potential health effects**

**Eye contact**
May cause moderate to strong eye irritation, including redness of mucous membranes and tearing.

**Skin Contact**
May cause moderate to strong skin irritation including redness, swelling and scaling.
Repeated or prolonged exposure may cause skin sensitization.

**Inhalation**
Moderately irritating.  
May cause nose, throat, and lung irritation.

**Ingestion**  
May cause irritations of the digestive tract.

**Chronic Health Hazard**  
Repeated exposure may produce allergic reactions in some individuals characterized by redness, itching, oozing, crusting and scaling of skin and asthmatic wheezing.

**Potential environmental effect**  
Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

### 3. Composition / information on ingredients

**Information on ingredients / Hazardous components**

- **Dibenzoyl peroxide**  
  - CAS-No.: 94-36-0  
  - Percent (Wt./Wt.): 49 - 51%

- **Dicyclohexyl Phthalate**  
  - CAS-No.: 84-61-7  
  - Percent (Wt./Wt.): 40 - 55%

**Other information**  
This material is classified as hazardous under OSHA regulations.

### 4. First aid measures

**General advice**  
Take off contaminated clothing immediately.  
Never give anything by mouth to an unconscious person.  
Remove from exposure, lie down.  
If feeling unwell seek medical advice.

**Inhalation**  
If inhaled remove to fresh air. If cough or other symptoms develops or persists get medical attention.

**Skin contact**  
Wash off with soap and water.  
If skin irritation occurs, call physician.

**Eye contact**  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Ingestion**  
If swallowed, get medical attention immediately. Only induce vomiting if directed by a physician. Never give anything by mouth to an unconscious person.

### 5. Fire-fighting measures
Material no. 177361

Flash point not applicable

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

Specific hazards during fire fighting
Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self-acceleration decomposition reaction with release of flammable vapors which may autoignite. Cool closed containers exposed to fire with water spray. Vapors can travel to a source of ignition and flash back. Do not allow run-off from fire-fighting to enter drains or water courses.

Special protective equipment for fire-fighters
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA / NIOSH approved or equivalent) and full protective gear.

Further information
Evacuate area and fight fire from a safe distance. Containers near the source of fire should be cooled with a water spray to prevent contents from reaching decomposition temperature. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. Accidental release measures

Personal precautions
Evacuate personnel to safe areas.
Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Section 8 - Exposure Controls/Personal Protection.)

Environmental precautions
Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, rivers, groundwater or soil.

Methods for cleaning up
Organic Peroxide spills should be attended to immediately. Remove all sources of ignition.
Avoid dispersion of dust.
Contain spill. Mix with an inert material and then wet the mixture down with water.
Sweep up mixture of spilled organic peroxide and inert absorbent material using non-sparking tools and place in polyethylene bags for disposal.
NOTE: A supply of suitable inert absorbent should be kept available in areas where organic peroxides are used.
The sweepings in the polyethylene bag should be further wetted with water and disposed of immediately by an approved disposal company.
If stored for any period of time, store out of direct sunlight in a cool, well-ventilated place.
After all the material has been picked up, wash down the spill area with surfactant and water to remove any traces of organic peroxide.
Additional advice
Never return spills in original containers for re-use.
Dispose of contaminated material as waste in accordance with section 13.

7. HANDLING AND STORAGE

Handling

Safe handling advice
Avoid dust formation.
Avoid breathing dust.
Use only with adequate ventilation.
Keep away from heat.
Keep away from sparks and other sources of ignition.
Avoid contact with skin, eyes and clothing.
Do not swallow product.
Use personal protective equipment.
Wash thoroughly after handling.
Protect from contamination (see section 10 for materials to avoid).
Dispense and transfer in an area separate from storage area.
Never return unused material to storage receptacle.
Wash contact areas after handling.
Remove contaminated clothing and wash before reuse.
The addition of accelerators may result in vigorous decomposition.

Follow all MSDS/label precautions even after container is emptied because it may retain product residues.
The need for grounding and bonding of containers in accordance with OSHA 29 CFR 1910.106 and NFPA 77 should be assessed for all product transfers.

Advice on protection against fire and explosion
Containers exposed to temperatures exceeding the SADT (see section 10) may decompose violently.
Consult with specialists to ensure design protects against these hazards.

Storage

Requirements for storage areas and containers
Heat or contamination may cause hazardous decomposition.
Keep containers dry and tightly closed to avoid moisture absorption and contamination.
Keep container away from flammable and explosive substances.
Protect from heat and exposure to direct sunlight
Store in original container.
Transport and store container in upright position only.
Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.
Do not grind or subject Benzoyl Peroxide to frictional heat or shock. Do not allow benzoyl peroxide to dry out, as the material will become shock and friction sensitive.
Consult NFPA 400 for storage area guidance. Storage and handling designs should be arranged in consultation with a person experienced in these types of assessments.

Further information
Avoid temperatures above 25°C.
Peroxide residues must not be returned into the original container, danger of decomposition!
Advice on common storage
Do not store together with:
acids, alkalis, reducing agents, metallic salts.

Storage stability
< 25 °C

8. Exposure controls / personal protection

Component occupational exposure guidelines

- Dibenzoyl peroxide
  
  CAS-No. 94-36-0
  Control parameters Time Weighted Average (TWA): (ACGIH)
  5 mg/m³ 5 mg/m³ 5 mg/m³

Engineering measures
Use process enclosures, local exhaust ventilation or other engineering controls to control airborne exposure.
Avoid accumulation of dust in ventilation ducts or on plant surfaces. Clean areas as needed.

Personal protective equipment

Respiratory protection
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use.
NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection
Use impermeable gloves.
Gloves must be inspected prior to use.
Personal protective equipment that provides a barrier to prevent dermal exposure to this substance is required.

The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use.
Suitability for specific workplaces should be clarified with protective glove manufacturers.

Eye protection
in case of dusts being formed: close-fitting protective goggles (e.g. closed goggles)

Skin and body protection
A safety shower and eye wash fountain should be readily available.
To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.
Hygiene measures
Remove and wash contaminated clothing before re-use.
Wash contact areas after handling.
Keep away from food, drink and animal feed.
All protective equipment that has been contaminated should be cleaned before reuse.

9. Physical and chemical properties

Appearance
- Form: powder
- Color: white
- Odor: faint

Safety data
- pH: not determined
- Melting point/range: Decomposes before melting.
- Boiling point/range: not applicable
  Decomposes
- Flash point: not applicable
- Vapor pressure: not determined
- Relative density: 1.23 (20 °C)
- Bulk density: 640 kg/m3 (20 °C)
- Water solubility: Insoluble
- Partition coefficient (n-octanol/water): not determined
- Viscosity, dynamic: not applicable
- Relative vapor density: not applicable

10. Stability and reactivity

Conditions to avoid: Keep away from heat and sources of ignition.

Materials to avoid: heavy metal compounds, reducing agents, combustible material, strong acids and strong bases, oxidizing agents, impurities, metal ions, metallic salts, metals.

Hazardous decomposition products: Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and can autoignite.

In case of fire and decomposition formation of inflammable and explosive, irritant, corrosive, harmful and toxic gases and vapors possible.
11. TOXICOLOGICAL INFORMATION

**Product Acute oral toxicity**
LD50 Rat: > 5000 mg/kg
Test substance: (BP-78%, granules)

**Component Acute inhalation toxicity**
Dibenzoyl peroxide
94-36-0
LC50 Rat: 24.3 mg/l / 4 h
Nominal concentration

**Product Acute dermal toxicity**
no data available

**Product Skin irritation**
Rabbit / 24 h
Not irritating.
Test substance: (BP-78%, granules)

**Product Eye irritation**
Rabbit
Slightly/ moderately irritating
Test substance: (BP-78%, granules)

**Product Sensitization**
May cause sensitization by skin contact.

**Component Gentoxicity in vitro**
Dibenzoyl peroxide
94-36-0
Ames test negative
12. Ecological information

Elimination information (persistence and degradability)
- Biodegradability: Inherently biodegradable.

Behavior in environmental compartments
- Bioaccumulation: Bioconcentration factor (BCF): 66.6

Ecotoxicity effects
- Toxicity to fish: LC50: 0.06 mg/l / 96 h
- Toxicity to daphnia: EC50 Daphnia magna: 0.11 mg/l / 48 h
- Toxicity to algae: EC50 Green algae: 0.06 mg/l / 72 h
- Toxicity to bacteria: EC50 Respiration inhibition Activated sludge: 35 mg/l

General Ecological Information: The data is based on the pure substance.

13. Disposal considerations

WASTE DISPOSAL
Advice on disposal: Waste must be disposed of in accordance with federal, state, provincial and local regulations. Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.

RCRA Classification: Ignitable D001.
RCRA Classification: Reactive D003.

14. Transport information

D.O.T. Road/Rail
- Class: 5.2
- UN-No: 3106
- Packing group: II
- Proper shipping name: ORGANIC PEROXIDE TYPE D, SOLID
- Technical Name: (Dibenzoyl peroxide, 50% in phthalate)
- Marine pollutant: Marine pollutant

Sea transport IMDG-Code
- Class: 5.2
- UN-No: 3106
- Packaging group: EmS
- EmS: F-J, S-R
MATERIAL SAFETY DATA SHEET

Protectosil® Degadeck® CSS BPO

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Proper technical name (Proper shipping name)
ORGANIC PEROXIDE TYPE D, SOLID
(Dibenzoyl peroxide, 50% in phthalate)
Marine pollutant

Air transport ICAO-TI/IATA-DGR
Class 5.2
UN-No 3106
Packaging group
Proper technical name (Proper shipping name)
Organic peroxide type D, solid
(Dibenzoyl peroxide, 50% in phthalate)

Loading instructions/Remarks
IATA_C ERG-Code 5L
IATA_P ERG-Code 5L
IMDG On deck only.
IMDG "Separated from" acids and alkalis.

15. Regulatory information

US Federal Regulations

OSHA
If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

CERCLA Reportable Quantities
If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories
The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Reactivity Hazard
- Fire Hazard

SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
MATERIAL SAFETY DATA SHEET
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VOC
Volatil

WHMIS
Volatile organic compounds
Workplace Hazardous Materials Information System

WHO
World Health Organization


- None listed

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:
- None listed

State Regulations

California Proposition 65
A warning under the California Drinking Water Act is required only if listed below:
- None listed

International Chemical Inventory Status
Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

- Europe (EINECS/ELINCS) Listed/registered
- USA (TSCA) Listed/registered
- Canada (DSL) Listed/registered
- Australia (AICS) Listed/registered
- Japan (MITI) Listed/registered
- Korea (TCCL) Listed/registered
- Philippines (PICCS) Listed/registered
- China Listed/registered
- New Zealand Listed/registered

16. OTHER INFORMATION

HMIS Ratings

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<td>Physical Hazard</td>
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Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Legend

ACC American Chemistry Council
ACGIH American Conference of Governmental Industrial Hygienists
ACS Advisory Committee on Sustainability
ADI Acceptable Daily Intake
ASTM American Society for Testing and Materials
ATP Adaptation to Technical Progress
BCF Bioconcentration factor
BOD Biochemical oxygen demand
c.c. closed cup
CAO Cargo Aircraft Only
Carc Carcinogen
CAS Chemical Abstract Services
CDN Canada
CEPA Canadian Environmental Protection Act
CERCLA Comprehensive Environmental Response – Compensation and Liability Act
CFR Code of Federal Regulations
CMR Carcinogenic- mutagenic-toxic for reproduction
COD Chemical oxygen demand
DIN German Institute for Standardization
DM EL Derived minimum effect level
DNEL Derived no effect level
DOT Department of Transportation
EC50 half maximal effective concentration
EPA Environmental Protection Agency
ErC50 Reduction of Growth Rate
ERG Emergency Response Guide Book
FDA Food and Drug Administration
GHS Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP Good Laboratory Practice
GMO Genetic Modified Organism
HCS Hazard Communication Standard
HMIS Hazardous Materials Identification System
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
ICAO-TI International Civil Aviation Organization- Technical Instructions
ICCA International Council of Chemical Association
**MATERIAL SAFETY DATA SHEET**

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**Abbreviations:**

- **ID**: Identification number
- **IMDG**: International Maritime Dangerous Goods
- **IUPAC**: International Union of Pure and Applied Chemistry
- **ISO**: International Organization for Standardization
- **LC50**: 50 % Lethal Concentration
- **LD50**: 50 % Lethal Dose
- **L(E)C 50**: LC50 or EC50
- **LOA EL**: Lowest observed adverse effect level
- **LOEL**: Lowest observed effect level
- **MARPOL**: International Convention for the Prevention of Pollution from Ships
- **NFPA**: National Fire Protection Association
- **NOAEL**: No observed adverse effect level
- **NOEC**: No observed effect concentration
- **NOEL**: No observed effect level
- **o. c.**: open cup
- **OECD**: Organization for Economic Cooperation and Development
- **OEL**: Occupational Exposure Limit
- **OSHA**: Occupational Safety and Health Administration
- **PBT**: Persistent, bioaccumulative, toxic
- **PEC**: Predicted effect concentration
- **PNEC**: Predicted no effect concentration
- **RQ**: Reportable Quantity
- **SDS**: Safety Data Sheet
- **STOT**: Specific Target Organ Toxicity
- **UN**: United Nations
- **vPvB**: very persistent, very bioaccumulative
- **VOC**: Volatile organic compounds
- **WHMIS**: Workplace Hazardous Materials Information System
- **WHO**: World Health Organization