

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	1 10 / 11

### 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
<b>US: CHEMTREC EMERGENCY NUMBER</b>	800-424-9300
<b>CANADA: CANUTEC EMERGENCY NUMBER</b>	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

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	2 10 / 11

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.

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## 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.

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## 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.

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## 5. Fire-fighting measures

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	3 10 / 11

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.

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## 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.

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	4 10 / 11

### 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!

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	5 10 / 11

### 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	5 mg/m <sup>3</sup>
	5 mg/m <sup>3</sup>
	5 mg/m <sup>3</sup>

Time Weighted Average (TWA): (ACGIH)  
PEL: (OSHA Z1)  
Time Weighted Average (TWA)  
Permissible Exposure Limit (PEL): (US  
CA OEL)

### 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.

Glove material butyl rubber

Break through time > 8 hrs

#### 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.

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	6 10 / 11

### 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/m <sup>3</sup> (20 °C)
Water solubility	(20 °C) 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.

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	7 10 / 11

Thermal decomposition	60 °C Method: SADT (UN test H.4) Rapid, exothermic reaction may occur above the Self Accelerated Decomposition Temperature (SADT). SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite.
Hazardous reactions	When coming in contact with the product, impurities, decomposition catalysts, metallic salts, alkalis, reducing agents may lead to self-accelerated, exothermic decomposition and the formation of oxygen compounds. Risk of decomposition when exposed to heat. Product will not undergo hazardous polymerization.
Safety notes	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.

## 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 Genticity in vitro	Dibenzoyl peroxide 94-36-0 Ames test negative

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Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	8 10 / 11

## 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	F-J, S-R



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## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	9 10 / 11

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

Marine pollutant 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:

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## Protectosil® Degadeck® CSS BPO

Material no.		Version	<b>1.2 / US</b>
Specification	<b>177361</b>	Revision date	<b>10/10/2012</b>
Order number		Print date	<b>12/12/2013</b>
		Page	<b>10 10 / 11</b>

### Legend

<b>ACC</b>	American Chemistry Council
<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>ACS</b>	Advisory Committee on Sustainability
<b>ADI</b>	Acceptable Daily Intake
<b>ASTM</b>	American Society for Testing and Materials
<b>ATP</b>	Adaptation to Technical Progress
<b>BCF</b>	Bioconcentration factor
<b>BOD</b>	Biochemical oxygen demand
<b>c.c.</b>	closed cup
<b>CAO</b>	Cargo Aircraft Only
<b>Carc</b>	Carcinogen
<b>CAS</b>	Chemical Abstract Services
<b>CDN</b>	Canada
<b>C EPA</b>	Canadian Environmental Protection Act
<b>CERCLA</b>	Comprehensive Environmental Response – Compensation and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>CMR</b>	carcinogenic- mutagenic-toxic for reproduction
<b>COD</b>	Chemical oxygen demand
<b>DIN</b>	German Institute for Standardization
<b>DM EL</b>	Derived minimum effect level
<b>DNEL</b>	Derived no effect level
<b>DOT</b>	Department of Transportation
<b>EC50</b>	half maximal effective concentration
<b>EPA</b>	Environmental Protection Agency
<b>ErC50</b>	Reduction of Growth Rate
<b>ERG</b>	Emergency Response Guide Book
<b>FDA</b>	Food and Drug Administration
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
<b>GLP</b>	Good Laboratory Practice
<b>GMO</b>	Genetic Modified Organism
<b>HCS</b>	Hazard Communication Standard
<b>HMIS</b>	Hazardous Materials Identification System
<b>IARC</b>	International Agency for Research on Cancer
<b>IATA</b>	International Air Transport Association
<b>IBC</b>	Intermediate Bulk Container
<b>ICAO-TI</b>	International Civil Aviation Organization- Technical Instructions
<b>ICCA</b>	International Council of Chemical Association
<b>ID</b>	Identification number
<b>IMDG</b>	International Maritime Dangerous Goods
<b>IUPAC</b>	International Union of Pure and Applied Chemistry
<b>ISO</b>	International Organization for Standardization
<b>LC50</b>	50 % Lethal Concentration
<b>LD50</b>	50 % Lethal Dose
<b>L(E)C 50</b>	LC50 or EC50
<b>LOA EL</b>	Lowest observed adverse effect level
<b>LOEL</b>	Lowest observed effect level
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>NFPA</b>	National Fire Protection Association
<b>NOAEL</b>	No observed adverse effect level
<b>NOEC</b>	no observed effect concentration
<b>NOEL</b>	no observed effect level
<b>o. c.</b>	open cup
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>OEL</b>	Occupational Exposure Limit
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PBT</b>	Persistent, bioaccumulative, toxic
<b>PEC</b>	Predicted effect concentration
<b>PNEC</b>	Predicted no effect concentration
<b>RQ</b>	Reportable Quantity
<b>SDS</b>	Safety Data Sheet
<b>STOT</b>	Specific Target Organ Toxicity
<b>UN</b>	United Nations
<b>vPvB</b>	very persistent, very bioaccumulative

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	11 10 / 11

<b>VOC</b>	Volatile organic compounds
<b>WHMIS</b>	Workplace Hazardous Materials Information System
<b>WHO</b>	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

Health:	2
Flammability:	2
Physical Hazard:	3

# MATERIAL SAFETY DATA SHEET

## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	12 10 / 11

### Further information

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

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## Protectosil® Degadeck® CSS BPO



Material no.		Version	1.2 / US
Specification	177361	Revision date	10/10/2012
Order number		Print date	12/12/2013
		Page	13 10 / 11

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<b>OECD</b>	Organization for Economic Cooperation and Development
<b>OEL</b>	Occupational Exposure Limit
<b>OSHA</b>	Occupational Safety and Health Administration
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<b>SDS</b>	Safety Data Sheet
<b>STOT</b>	Specific Target Organ Toxicity
<b>UN</b>	United Nations
<b>vPvB</b>	very persistent, very bioaccumulative
<b>VOC</b>	Volatile organic compounds
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<b>WHO</b>	World Health Organization