*
1 IDENTIFICATION

· **Product identifier**

· **Trade name: EZ Seal™ Catalyst Powder (DHCP Free)**

· **Article number:** 790-2

· **Application of the substance / the mixture:** Hardening agent/ Curing agent

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

· **Manufacturer/Supplier:**

Malarkey Roofing Products
3131 N. Columbia Blvd., Portland, OR 97217-7472
P.O. Box 17217, Portland, OR 97217-0217
USA
Toll Free: +1-800-545-1191
Fax: +1-503-289-7644
www.malarkeyroofing.com

· **Technical Contact:**

Matthew Felt
Technical Services Manager
Tel.: 503-283-1191
E-Mail: mfelt@malarkeyroofing.com

· **Emergency telephone number:**

For Chemical Emergency
Spill Leak Fire Exposure or Accident
Call CHEMTREC Day or Night

DOMESTIC NORTH AMERICA 800-424-9300
INTERNATIONAL, CALL 703-527-3887 (collect calls accepted)

2 HAZARD(S) IDENTIFICATION

· **Classification of the substance or mixture**

GHS02 Flame

Org. Perox. D H242 Heating may cause a fire.

GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

(Contd. on page 2)

(Contd. from page 1)

Trade name: EZ Seal™ Catalyst Powder (DHCP Free)

· **Hazard-determining components of labeling:**
dibenzoyl peroxide
· **Hazard statements**
H242 Heating may cause a fire.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
· **Precautionary statements**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P234 Keep only in original container.
P273 Avoid release to the environment.
P280 Wear protective clothing/ eye protection.
P370+P378 In case of fire: Use for extinction: CO_2, powder or water spray.
P403+P235 Store in a well-ventilated place. Keep cool.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.
· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
· **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).

3 COMPOSITION/INFORMATION ON INGREDIENTS

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 94-36-0 Index number: 617-008-00-0	dibenzoyl peroxide	25-50%

4 FIRST-AID MEASURES

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out of danger area and lay down.
If symptoms persist or in all cases of doubt, see a doctor. Never give anything by mouth to an unconscious person. If unconscious, place in a stable lateral position and seek medical advice.
· **After inhalation:**
In case of unconsciousness, place patient stably in side position for transportation.
Take affected persons into fresh air and keep quiet.
Seek medical treatment.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

(Contd. from page 2)

If skin irritation continues, consult a doctor.
Remove contaminated clothing immediately.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** Rinse mouth with water (only if person is conscious). Do not induce vomiting; immediately call for medical help.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
Irritant to skin, eyes and respiratory system.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 FIRE-FIGHTING MEASURES

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, sand, extinguishing powder, foam.
Water spray
· **For safety reasons unsuitable extinguishing agents:**
Halone
Water with full jet
· **Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
In certain fire conditions, traces of other toxic gases cannot be excluded.
Carbon monoxide (CO)
CO_2
Benzoic acid, benzene
· **Advice for firefighters**
· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
Wear self-contained respiratory protective device.
· **Additional information**
Cool endangered receptacles with water spray.
Evacuate all non-essential persons. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition.

6 ACCIDENTAL RELEASE MEASURES

· **Personal precautions, protective equipment and emergency procedures**
Do not breathe dust.


Keep away from ignition sources

Avoid static electricity.
Cool case of further temperature with a jet of water from a safe distance.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
Do not flush with water or aqueous cleansing agents
Ensure adequate ventilation.
Send for recovery or disposal in suitable receptacles.

(Contd. on page 4)

(Contd. from page 3)

First of all dampened with water.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 HANDLING AND STORAGE

· **Handling:**
· **Precautions for safe handling**
Do not refill residue into storage receptacles.
Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Restrict the quantity stored at the work place.
Handle with care. Avoid jolting, friction and impact.
Ensure good ventilation/exhaustion at the workplace, i.e., at least 7 air changes per hour.
· **Information about protection against explosions and fires:**
Highly volatile, flammable constituents are released during processing.
Keep ignition sources away - Do not smoke.
Use explosion-proof apparatus / fittings and spark-proof tools.
Dust can combine with air to form an explosive mixture.
Substance/product is oxidizing when dry.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Prevent any seepage into the ground.
Use only receptacles specifically permitted for this substance/product.
Store in accordance with local and national regulations.
Store in a cool location.
· **Information about storage in one common storage facility:**
Organic peroxides shall not be parked or stored together with heavy metal compounds or amines or their preparations.
· **Further information about storage conditions:**
Store in cool, dry conditions in well-sealed receptacles.
Store receptacle in a well-ventilated area.
Protect from contamination. Store in a cool place.
Maximum storage temperature 30 °C (86 °F)
Keep contents moist.
Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
94-36-0 dibenzoyl peroxide (25-50%)	
PEL	Long-term value: 5 mg/m³
REL	Long-term value: 5 mg/m³
TLV	Long-term value: 5 mg/m³

· **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 5)

(Contd. from page 4)

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Avoid contact with the eyes and skin.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Use skin protection cream for skin protection.
Keep away from foodstuffs, beverages and feed.
Avoid close or long term contact with the skin.
Avoid contact with the eyes.
· **Breathing equipment:**
In case of brief exposure or low pollution, use respiratory filter device.
In case of intensive or longer exposure, use respiratory protective device independent of circulating air.
· **Protection of hands:**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material must consider penetration times, rates of diffusion, and the degradation.
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves, apply skin-cleaning agents and skin cosmetics.
Check protective gloves prior to each use for their proper condition.
· **Material of gloves**
The selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Protective gloves according to EN 374.
· **Penetration time of glove material**
Our recommendation is mainly on a one-time use as a short-term protection against liquid splashes. For other applications, you should contact a glove manufacturer.
The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**
Neoprene gloves
Nitrile rubber, NBR
· **For permanent contact, gloves made of the following materials are suitable:** Butyl rubber, BR
· **Not suitable are gloves made of the following materials:** Leather gloves
· **Eye protection:**


Tightly sealed goggles

· **Body protection:**


Protective work clothing

(Contd. on page 6)

(Contd. from page 5)

9 PHYSICAL AND CHEMICAL PROPERTIES

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Powder
Color:	White
· **Odor:**	Weak, characteristic
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	7
· **Change in condition**	
Melting point/Melting range:	58 °C (136.4 °F); decomposes before melting.
Boiling point/Boiling range:	Not applicable; decomposes.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Decomposition products may flammable. May cause fire.
· **Decomposition temperature:**	Decomposition temperature (SADT) is the lowest temp at which
self-accelerating decomposition may occur in transport packaging, i.e., 55 °C (131 °F).	
· **Auto igniting:**	Decomposition product(s) may be flammable.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties**	Unavailable
· **Vapor pressure:**	Not applicable. **Density:** Not determined.
· **Bulk density:**	640 kg/m³
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	log POW 3.2 at 22 °C (72 °F) (OECD 107).
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
VOC content:	0.00 %
· **Other information**	Active oxygen 3.24 - 3.47 %

10 STABILITY AND REACTIVITY

· **Reactivity** see Section 10.2
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**

(Contd. on page 7)

(Contd. from page 6)

SADT - (Self-accelerating decomposition temperature) is the lowest temperature in the self-accelerating decomposition may occur in the shipping container. A dangerous self-accelerating decomposition reaction, explosion or fire can be caused by thermal decomposition at or above the indicated temperature:
55 °C (131 °F). Contact with incompatible substances can cause decomposition at or below the SADT 55 °C (131 °F).
To avoid thermal decomposition do not overheat.
Shock, avoid friction, heat, sparks, static electricity.

· **Possibility of hazardous reactions**
Reacts with alkali, amines and strong acids.
Reacts with certain metals.
· **Conditions to avoid:** Maintain storage temperatures: under 25 °C (77 °F); avoid friction, heat, sparks, etc.
· **Incompatible materials:**
Avoid contact with rust, iron and copper. Hazardous decomposition on contact with incompatible materials such as acids, alkalis, heavy metals and reducing agents. Do not mix with peroxide accelerators. Only use stainless steel according to DIN 1.4571, PVC, polyethylene, or glass-lined equipment.
· **Hazardous decomposition products:**
In case of fire: see Section 5.
SADT information: see *Thermal decomposition / conditions to be avoided* above.
· **Additional information:**
Emergency procedures will vary depending on individual circumstances. The customer should have a workplace contingency plan in place.

11 TOXICOLOGICAL INFORMATION

· **Information on toxicological effects** There were no toxicological findings to the mixture.
· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Oral	LD50	>2010 mg/kg
94-36-0 dibenzoyl peroxide		
Oral	LD50	> 2000 mg/kg (mouse)
Inhalative	LC50	> 24300 mg/l (rat) (Staub)
94-49-5 Ethylene dibenzoate		
Oral	LD50	>2000 mg/kg (rat) (OECD 423)
	NOAEL	300 mg/kg (rat) (OECD 422)

· **Primary irritant effect:**
· **on the skin:** Irritability.
· **on the eye:** Irritating effect.
· **Sensitization:** Sensitization possible through skin contact.

· **Subacute to chronic toxicity:**		
94-36-0 dibenzoyl peroxide		
Oral	NOAEL	200 mg/kg/d (rat) Adverse effect observed.
		500 mg/kg/d (unknown) Concentration at which no adverse effect was observed.
	NOAEL/29d	1000 mg/kg/d (unknown) Concentration at which no adverse effect was observed.

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

(Contd. on page 8)

(Contd. from page 7)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
94-36-0	dibenzoyl peroxide	3
7631-86-9	silicon dioxide, chemically prepared	3

· **NTP (National Toxicology Program)**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

12 ECOLOGICAL INFORMATION

· **Toxicity**

94-49-5 Ethylene dibenzoate	
EC50/3h (static)	>1280 mg/l (activated sludge) (OECD 209)
EC50/21d	1.4 mg/l (daphnia magna) (OECD 211)
EC10/21d (static)	0.79 mg/l (daphnia magna) (OECD 211)

· **Aquatic toxicity:**

94-36-0 dibenzoyl peroxide	
EC50	35 mg/l (bacteria) (Respiration inhibition test for activated sludge) 0.5 h
EC50/48h	0.11 mg/l (daphnia magna) (OECD-Richtline 202)
LC50/96h	0.06 mg/l (fish)
NOEC/72h	0.02 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EC50/72h	0.0711 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
NOEC	0.077 mg/l (daphnia magna) (OECD-Richtline 202) 48 h
	0.0316 mg/l (Rainbow trout) (OECD 203) 96 h

94-49-5 Ethylene dibenzoate	
LC50/96h (static)	> 0.434 mg/l (Danio rerio) (Acute toxicity to fish)
ErC50/72h (static)	> 0.87 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
NOEC/72h (static)	0.045 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
NOEC/21d (static)	0.65 mg/l (daphnia magna) (OECD 211)
NOEC (static)	0.073 mg/l (Danio rerio) (OECD 210)

· **Persistence and degradability**
Ethylene glycol dibenzoate
Biodegradability: Type of test: Closed bottle test
Biological degradation: 81 %
Exposure time: 28 d
Method: OECD test guideline 301D
GLP: yes
Easily biodegradable.

Dibenzoyl peroxide
Biodegradability: Result: Potentiall biodegradable

· **Behavior in environmental systems:**

· **Bioaccumulative potential**
Dibenzoyl peroxide:
Partition coefficient: n-octanol/water : log Pow: 3.2 (20 °C)

· **Mobility in soil** Dibenzoyl peroxide log Koc: 6310 (22 °C)

· **Ecotoxical effects:**

· **Remark:**
Very toxic to aquatic organisms.
Toxic for fish.

(Contd. on page 9)

Trade name: EZ Seal™ Catalyst Powder (DHCP Free)

(Contd. from page 8)

· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
· **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).
· **Other adverse effects:** No further relevant information available.

13 DISPOSAL CONSIDERATIONS

· **Waste treatment methods**
Hazardous waste according to Waste Catalogue (EWC). If recycling is not possible, waste must be in compliance with local regulations to be removed.
· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Must be specially treated adhering to official regulations.

· **Uncleaned packagings:**
· **Recommendation:**
Packaging must be emptied of all residues and disposed of properly in accordance with the statutory provisions.
Packaging that has not been completely emptied must de disposed of in coordination with the regional Disposal company.
Disposal must be made according to official regulations.

(Contd. on page 10)

Trade name: EZ Seal™ Catalyst Powder (DHCP Free)

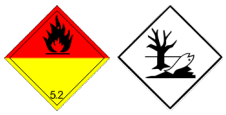
(Contd. from page 9)

14 TRANSPORT INFORMATION

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN3106
· **UN proper shipping name**	
· **DOT**	Organic peroxide type D, solid
· **ADR**	3106 ORGANIC PEROXIDE TYPE D, SOLID (dibenzoyl peroxide)
· **IMDG**	ORGANIC PEROXIDE TYPE D, SOLID (dibenzoyl peroxide), MARINE POLLUTANT
· **IATA**	ORGANIC PEROXIDE TYPE D, SOLID (dibenzoyl peroxide)
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	5.2 Organic peroxides
· **Label**	5.2
· **ADR**	

· **Class**	5.2 (P1) Organic peroxides
· **Label**	5.2
· **IMDG**	



· **Class**	5.2 Organic peroxides
· **Label**	5.2
· **IATA**	

· **Class**	5.2 Organic peroxides
· **Label**	5.2
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void

(Contd. on page 11)

Trade name: EZ Seal™ Catalyst Powder (DHCP Free)

(Contd. from page 10)

· **Environmental hazards:**	
· **Marine pollutant:**	Yes; symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Organic peroxides
· **Hazard ID number (Kemler code):**	539
· **EMS Number:**	F-J,S-R
· **Stowage Category**	D
· **Stowage Code**	SW1 Protected from sources of heat.
· **Segregation Code**	SG35 Stow "separated from" SGG1-acids. SG36 Stow "separated from" SGG18-alkalis. SG72 See 7.2.6.3.2.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Remarks:**	Classification according to viscosity clause [(173.120 (2) (d) and 173.121 (b) (iv)]; special marking w/symbol fish and tree.
· **ADR**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	500 g
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN 3106 ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), 5.2

15 REGULATORY INFORMATION

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

94-36-0	dibenzoyl peroxide

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer, reproductive toxicity in females & males, or developmental toxicity:**
None of the ingredients are listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value)**

94-36-0	dibenzoyl peroxide	A4

(Contd. on page 12)

(Contd. from page 11)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 OTHER INFORMATION

These figures relate to the product as delivered.

Sector of Use
Relevant identified uses of the mixture
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU19 Building and construction work
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against
SU21 Consumer uses: Private households / general public / consumers

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints**
Teaching about hazards and precautions to hand the operating instructions (Technical Rule 555). Instruction must take place before the start of employment and at least annually thereafter.

· **Contact:**
· **Date of preparation / last revision** 03/24/2021 / 30
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Org. Perox. D: Organic peroxides – Type C/D
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 2: Reproductive toxicity – Category 2
· **Sources**
www.gestis.de
www.echa.eu
logkow.cisti.nrc.ca
· *** Data compared to the previous version altered.**