



ISOPON BPO HARDENER

Safety Data Sheet RBPO-R-US-SDS

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : ISOPON BPO HARDENER
 UP Number : UP5011
 Other means of identification : Component of: UP5000, UP5001, UP5003, UP5004, UP5007, UP5008, UP5009, UP5012, UP5013, UP5014, UP5015, UP5016, UP5017, UP5018, UP5019, UP5050

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fillers, putties, plasters, modeling clay
 Recommended use : Hardener

1.3. Supplier

U-POL US Inc
 108 Commerce Way
 Easton, PA 18040 - United States
 T 1-800-340-7824 - F 1-800-787-5150
technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC - 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Organic Peroxide Category E Heating may cause a fire
 Serious eye damage/eye irritation Category 2 Causes serious eye irritation
 Skin sensitization, Category 1 May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning

Hazard statements (GHS US) : Heating may cause a fire
 May cause an allergic skin reaction
 Causes serious eye irritation

Precautionary statements (GHS US) : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep/Store away from combustible materials
 Keep only in original container.
 Avoid breathing fume, vapors.
 Wash hands thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective clothing, protective gloves, Eye protection.
 If on skin: Wash with plenty of water.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Protect from sunlight.
 Store at temperatures not exceeding 30°C / 86°F. Keep cool.
 Store away from other materials.
 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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2.3. Other hazards which do not result in classification

2.4. Unknown acute toxicity (GHS US)

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
dibenzoyl peroxide	(CAS-No.) 94-36-0	43 – 63	Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ethanediol, ethylene glycol	(CAS-No.) 107-21-1	< 23	Acute Tox. 4 (Oral), H302

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : 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.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

- Fire hazard : Heating may cause a fire.
- Reactivity : Heating may cause a fire.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves.
- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing vapors, fume.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Do not allow to dry.
Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information : Ensure adequate ventilation. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Take precautions against electrostatic charges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing vapors, fume.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store away from other materials. Protect from sunlight. Keep only in original container. Keep cool. Store in a well-ventilated place.
Incompatible products : Keep away from reducing agents/(strong) acids /(strong) bases and metals.
Incompatible materials : Combustible materials.
Storage temperature : 5 – 25 °C (reccomended)
Storage area : Store in a well-ventilated place.
Special rules on packaging : Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ISOPON BPO HARDENER		
ACGIH	Local name	Benzoyl peroxide
ACGIH	ACGIH OEL TWA	5 mg/m ³
ACGIH	Remark (ACGIH)	TLV® Basis: URT & skin irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2021
OSHA	OSHA PEL (TWA) [1]	5 mg/m ³
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
ethanediol, ethylene glycol (107-21-1)		
ACGIH	Local name	Ethylene glycol
ACGIH	ACGIH OEL TWA	10 mg/m ³
ACGIH	ACGIH OEL TWA [ppm]	25 ppm (Vapor fraction)
ACGIH	ACGIH OEL STEL	10 mg/m ³ (Inhalable fraction, Aerosol only)
ACGIH	ACGIH OEL STEL [ppm]	50 ppm (Vapor fraction)
ACGIH	Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2021
dibenzoyl peroxide (94-36-0)		
ACGIH	Local name	Benzoyl peroxide
ACGIH	ACGIH OEL TWA	5 mg/m ³
ACGIH	Remark (ACGIH)	TLV® Basis: URT & skin irr. Notations: A4 (Not classifiable as a Human Carcinogen)

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dibenzoyl peroxide (94-36-0)		
ACGIH	Regulatory reference	ACGIH 2021
OSHA	OSHA PEL (TWA) [1]	5 mg/m ³
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Protective clothing. Safety glasses.

Materials for protective clothing:

Impermeable clothing

Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration
Protective gloves	Neoprene rubber (HNBR), Nitrile rubber (NBR)	2 (> 30 minutes)	≥0.14mm	

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Paste.
Color	: red white Blue
Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: May cause fire. Heating may cause a fire.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: Not applicable

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Density	: 1.1 g/cm ³
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
No data available	Viscosity, kinematic : No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

SADT : 50 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating may cause a fire.

10.2. Chemical stability

SADT.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Benzene.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

ethanediol, ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg body weight Animal: rat
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	500 mg/kg body weight

dibenzoyl peroxide (94-36-0)	
LD50 oral rat	> 5000 mg/kg body weight Animal: rat, Animal sex: male

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

ethanediol, ethylene glycol (107-21-1)	
NOAEL (chronic, oral, animal/male, 2 years)	1500 mg/kg body weight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)

dibenzoyl peroxide (94-36-0)	
IARC group	3 - Not classifiable

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Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

ethanediol, ethylene glycol (107-21-1)	
LC50 - Fish [1]	72860 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

dibenzoyl peroxide (94-36-0)	
LC50 - Fish [1]	0.0602 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	0.11 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

ethanediol, ethylene glycol (107-21-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O ₂ /g substance
Chemical oxygen demand (COD)	1.24 g O ₂ /g substance
ThOD	1.29 g O ₂ /g substance
BOD (% of ThOD)	0.36

12.3. Bioaccumulative potential

ethanediol, ethylene glycol (107-21-1)	
BCF - Fish [1]	10 (72 h, Leuciscus idus)
BCF - Other aquatic organisms [1]	0.21 – 0.6 (Procambarus sp., Chronic)
BCF - Other aquatic organisms [2]	190 (24 h, Algae)
Partition coefficient n-octanol/water (Log Pow)	-1.34 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

ethanediol, ethylene glycol (107-21-1)	
Surface tension	48 mN/m (20 °C)
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN3108 Organic peroxide type E, solid, 5.2, II
UN-No.(DOT)	: UN3108
Proper Shipping Name (DOT)	: Organic peroxide type E, solid
Class (DOT)	: 5.2 - Class 5.2 - Organic Peroxide 49 CFR 173.128
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 5.2 - Organic peroxide



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 225
DOT Packaging Bulk (49 CFR 173.xxx)	: None
DOT Symbols	: G - Identifies PSN requiring a technical name
DOT Packaging Exceptions (49 CFR 173.xxx)	: 152
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 10 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 25 kg
DOT Vessel Stowage Location	: D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 12 - Keep as cool as reasonably practicable,40 - Stow "clear of living quarters",52 - Stow "separated from" acids,53 - Stow "separated from" alkaline compounds
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport document description (TDG)	: UN3108 ORGANIC PEROXIDE TYPE E, SOLID, 5.2, II
UN-No. (TDG)	: UN3108
Proper Shipping Name (TDG)	: ORGANIC PEROXIDE TYPE E, SOLID
TDG Primary Hazard Classes	: 5.2 - Class 5.2 - Organic Peroxides
Packing group (TDG)	: II - Medium Danger
TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,38 - A person must not handle, offer for transport or transport these dangerous goods in a large means of containment if they are in direct contact with the large means of containment.
Explosive Limit and Limited Quantity Index	: 0.5 kg
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 10 kg

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Passenger Carrying Ship Index : Forbidden

Transport by sea

Transport document description (IMDG) : UN 3108 ORGANIC PEROXIDE TYPE E, SOLID, 5.2, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG) : 3108
Proper Shipping Name (IMDG) : ORGANIC PEROXIDE TYPE E, SOLID
Class (IMDG) : 5.2 - Organic peroxides

Air transport

Transport document description (IATA) : UN 3108 Organic peroxide type e, solid, 5.2, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA) : 3108
Proper Shipping Name (IATA) : Organic peroxide type e, solid
Class (IATA) : 5.2 - Organic Peroxides

SECTION 15: Regulatory information

15.1. US Federal regulations

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

ethylene glycol	CAS-No. 107-21-1	< 23%
dibenzoyl peroxide	CAS-No. 94-36-0	43 – 63%

ethanediol, ethylene glycol (107-21-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on EPA Hazardous Air Pollutant (HAPS)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 5000 lb

dibenzoyl peroxide (94-36-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

ethanediol, ethylene glycol (107-21-1)

Listed on the Canadian DSL (Domestic Substances List)

dibenzoyl peroxide (94-36-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

WARNING: This product can expose you to ethanediol, ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
ethanediol, ethylene glycol(107-21-1)		X				8700 µg/day (oral)

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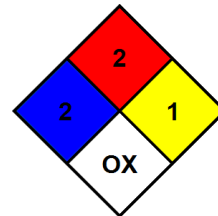
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Component	State or local regulations
ethanediol, ethylene glycol(107-21-1)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
dibenzoyl peroxide(94-36-0)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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- Revision date : 07/10/2020
- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.
- NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.
- NFPA specific hazard : OX - Materials that possess oxidizing properties.



SDS US GHS (GHS HazCom2012)

For professional use only.

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