



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.40

Section 1 - Product and Company Information

Product Name Benzoyl peroxide, reagent grade, 97%
Product Number 179981
Brand Aldrich Chemical
Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
BENZOYL PEROXIDE	94-36-0	Yes	202-327-6	617-008-00-0
Formula Synonyms	C14H10O4 Acneal, Aztec, BPO, Benzoperoxide, Benzoylperoxid (German), Benzoyl peroxide (AC31H:OSH4), Benzoylperoxyde (Dutch), Benzoyl superoxide, BZ-60, Cadet BPO, Cadex B-CH 50, Cadex BS, Debroxide, Dibenzoylperoxid (German), Dibenzoyl peroxide, Dibenzoylperoxyde (Dutch), Diphenylglyoxal peroxide, Fostex, Garox, Incadol, Lorotol, Lucidol, Lupercal AA, Lupercal AST, Luperox FL, Nayper B and BO, Norox bsp-C-35, Novadelox, Oxyllite, Panosyl, Percosido di benzolo (Italian), Peroxide, dibenzoyl, Peroxyde de benzoyle (French), Peroxod, Quinolor compound, Superox 744, Theraderm, Topex, Vanoxide, XeracidBENZYOYL PEROXIDE, LUPEROX A70S			

Section 3 - Hazards Identification

Emergency Overview
Explosive, Irritant.
May cause fire. Risk of explosion by shock, friction, fire, or other sources of ignition. Irritating to eyes. May cause sensitization by inhalation and skin contact.

HMIS Rating
Health: 3* Flammability: 1 Reactivity: 3 Special Hazard(s) : Oxidizer

NFPA Rating
Health: 3 Flammability: 1 Reactivity: 3 Special Hazard(s) : Oxidizer

*additional chronic hazards present
For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assume adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Explosion Hazards
May explode when heated.
Container explosion may occur under fire conditions.

Explosion Data
Sensitivity to Mechanical Impact
May be shock-sensitive.

Autoignition Temp: N/A

Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emitts toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure
Use only polyethylene tools and containers. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable
Keep tightly closed.
Unsuitable
Do not store near, nor allow contact with, clothing and other combustible material.

Section 9 - Exposure Controls / PPE

Engineering Controls
Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment

- Respiratory: Government approved respirator.
- Hand: Compatible chemical-resistant gloves.
- Eye: Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Country	Type	Value
Poland	NDS	5 MG/M3
Poland	NDSch	10 MG/M3
Poland	NDSP	

Exposure Limits, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	5 MG/M3
USA	MSHA Standard-air	TWA	5 MG/M3
USA	OSHA	PEL	8H TWA 5 MG/M3
New Zealand	OEL	TWA	5 MG/M3
USA	NIOSH		

Remark: check ACGIH TLV

Section 9 - Physical/Chemical Properties

Appearance
Physical State: Solid
Color: White

Molecular Weight: 242.2 AMU

pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatiles%	N/A
VOC Content	N/A
Water Content	< 0.05 %
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point *F	N/A
Flash Point *C	N/A

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Benzoyl peroxide

Explosion Limits N/A
Flammability N/A
Autoignition Temp N/A
Solubility N/A
N/A = not available

Section 10 - Stability and Reactivity

Stability

Materials to Avoid
Alcohols. Avoid contact with metals.

Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure

- Skin Contact**
May cause skin irritation.
- Skin Absorption**
May be harmful if absorbed through the skin.
- Eye Contact**
Causes eye irritation.
- Inhalation**
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
- Ingestion**
May be harmful if swallowed.

Sensitization

- Respiratory**
May cause allergic respiratory reaction.
- Skin**
May cause allergic skin reaction.

Signs and Symptoms of Exposure
Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue.

RTECS Number: DM6575000

Toxicity Data

- Oral - Rat:** 7710 mg/kg (LD50)
Remarks: Lungs, Thorax, or Respiration: Cyanosis.
- Liver:** Other changes.
- Kidney, Ureter, Bladder:** Other changes in urine composition.
- Oral - Mouse:** 5700 mg/kg (LD50)
- Intraperitoneal - Mouse:** 250 MG/KG (LD50)
- Skin - Mammal:** > 1000 mg/kg (LD50)

Irritation Data

- Eyes - Rabbit:** 500 mg 24H
Remarks: Mild irritation effect

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Chronic Exposure - Carcinogen

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Mouse - Skin: 24 GM/KG 30W 1
Result: Tumorigenic; Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

IARC Carcinogen List

Rating
Group 3

ACGIH Carcinogen List

Rating
A4

Chronic Exposure - Mutagen

Species

Result: Laboratory experiments have shown mutagenic effects.

Species	Dose	Cell Types	Mutation test
Human	100 UMOL/L	Other cell types	DNA damage
Human	56 UMOL/L	Other cell types	DNA inhibition
Human	56 UMOL/L	Other cell types	Other mutation test systems
Rat	300 UMOL/L	kidney	Mutation in mammalian somatic cells.
Mouse	100 PMOL/L	liver	Unscheduled DNA synthesis
Mouse	1 UMOL/L	Other cell types	DNA damage

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Organic peroxide type B, solid
UN#: 3102
Class: 5.2
Packing Group: Packing Group II
Hazard Label: Organic Peroxide
Hazard Label: Explosive
PH: Not PH

IATA

Proper Shipping Name: Organic peroxide type B, solid
IATA UN Number: 3102
Hazard Class: 5.2
Not Allowed - Aircraft: Not permitted for air transport.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: E Xi

Indication of Danger

Explosive, Irritant

Risk Statements

R: 2 36 43

Risk of explosion by shock, friction, fire, or other sources of ignition. Irritating to eyes. May cause sensitization by skin contact.

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Safety Statements

S: 37 14 36/37/39
Keep container tightly closed in a cool place. Keep away from combustible material. Wear suitable protective clothing, gloves, and eye/face protection.

US Classification and Label Text

Indication of Danger

Explosive, Irritant

Risk Statements

May cause fire. Risk of explosion by shock, friction, fire, or other sources of ignition. Irritating to eyes. May cause sensitization by inhalation and skin contact.

Safety Statements

Keep away from heat. Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.

United States Regulatory Information

SARA Listed: Yes

Demirfims: 1 %

Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.