



SIGMA-ALDRICH

Material Safety Data Sheet

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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: 800-325-5832
Fax: 800-325-5052

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
BENZOYL PEROXIDE	94-36-0	Yes	202-327-6	617-008-00-0

Formula C14H10O4
Synonyms Acnelgel, Aztec BPO, Benzoperoxide, Benzoylperoxid (German), Benzoyl peroxide (ACGIH:OSHA), Benzoylperoxyde (Dutch), Benzoyl superoxide, BZF-60, Cadat BPO, Cadox B-CH 50, Cadox BS, Debroxide, Dibenzoylperoxid (German), Dibenzoyl peroxide, Dibenzoylperoxyde (Dutch), Diphenylglyoxal peroxide, Fostex, Garox, Incidol, Loroxyde, Lucidol, Luperco AA, Luperco AST, Luperox FL, Nayper B and BO, Norox bzp-250, Norox bzp-C-35, Novadelox, Oxylite, Panoxyl, Peroxido di benzoile (Italian), Peroxide, dibenzoyl, Peroxyde de benzoyle (French), Persadox, Quinolol compound, Superox 744, Theraderm, Topex, Vanoxide, XeracDIBENZOYL 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.

HMS 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. Assure 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)
Emits 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 8 - Exposure Controls / PPE

Engineering Controls

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

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Exposure Limits

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		
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	5 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Color
Physical State	White
Solid	
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
Volatile%	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
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

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: DM8575000

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

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

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation test</u>
Result: Laboratory experiments have shown mutagenic effects.			
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
Human	300 UMOL/L	kidney	Mutation in mammalian somatic cells.
Rat	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.
PIH: Not PIH

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.

Safety Statements S: 3/7 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

Demimimis: 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 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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