

Material Safety Data Sheet

Benzoyl peroxide (wet)

ACC# 02782

Section 1 - Chemical Product and Company Identification

MSDS Name: Benzoyl peroxide (wet)

Catalog Numbers: AC211780000, AC211780010, AC211780050, AC211780100, AC211781000, B274-1LB, NC9747998

Synonyms: Dibenzoyl peroxide; Benzoic acid peroxide; Benzoyl superoxide.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
94-36-0	Benzoyl peroxide	67-75	202-327-6
7732-18-5	Water	25-33	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white powder.

Danger! Risk of explosion by shock, friction, fire or other sources of ignition. Organic peroxide. Heat or contamination may cause hazardous decomposition. Peroxides and decomposition products are flammable and can ignite with explosive force if confined. Strong oxidizer. Contact with other material may cause a fire. Causes eye and skin irritation. May cause allergic skin reaction. May cause respiratory tract irritation.

Target Organs: Eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Causes redness and pain.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May be harmful if absorbed through the skin.

Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed. May cause human systemic effects by ingestion: hallucinations, distorted perceptions, nausea or vomiting and kidney, ureter and bladder changes.

Inhalation: May cause respiratory tract irritation. May be harmful if inhaled. Decomposition products are toxic, and inhalation of these products can produce life threatening health effects.

Chronic: Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. This material poses an explosion hazard when dry. This material is an explosion hazard when exposed to heat, mechanical shock, friction or when agitated.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam. Do NOT use halogenated agents.

Flash Point: Not applicable.

Autoignition Temperature: 380 deg C (716.00 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 4; Instability: 4; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Remove all sources of ignition. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Use only non-sparking tools and equipment. In the event of spillage, spilled material should be mixed with water-wetted vermiculite, swept up, and placed in a container for immediate disposal. Spilled material not immediately cleaned up may increase the fire hazard due to evaporation of water away from the benzoyl peroxide.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use caution when opening. Can explode without warning when caps of old containers are unscrewed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat and flame. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep refrigerated. (Store below 4°C/39°F.)

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Benzoyl peroxide	5 mg/m ³ TWA	5 mg/m ³ TWA 1500 mg/m ³ IDLH	5 mg/m ³ TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Benzoyl peroxide: 5 mg/m³ TWA Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Appearance: white

Odor: weak odor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 104-106 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble in water.

Specific Gravity/Density: Not available.

Molecular Formula: (C₆H₅CO)₂O₂

Molecular Weight: 242.0676

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Do not allow to dry. In its dry form, benzoyl peroxide is highly flammable and explosive, sensitive to friction, shock and heat, and must be handled with extreme caution. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the SADT (Self-Accelerating Decomposition Temp) SADT = 80°C.

Conditions to Avoid: Mechanical shock, ignition sources, excess heat, combustible materials, reducing agents, organic matter, temperatures above 38°C/100°F.

Incompatibilities with Other Materials: Reducing agents, strong acids, bases, amines, metals, accelerators, methyl methacrylate, carbon tetrachloride and ethylene, organic matter, N,N - dimethylaniline and lithium aluminum hydride. Benzoyl peroxide is self-reactive chemical which can even explode without warning when the caps of old jars are unscrewed. It is extremely important to keep it pure, contaminants can lead to hazardous, unexpected explosions.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, benzene, benzoic acid, Phenyl benzoate, Terphenyls and Biphenyls.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 94-36-0: DM8575000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 94-36-0:

Draize test, rabbit, eye: 500 mg/24H Mild;

Oral, mouse: LD50 = 1200 mg/kg;

Oral, rat: LD50 = 7710 mg/kg;

Oral, rat: LD50 = 6400 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 94-36-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: BP caused testicular atrophy in mice and/or rats exposed by the oral route.

Mutagenicity: Benzoyl peroxide caused DNA damage in human cells (RTECS, 1996).BP caused unscheduled DNA synthesis in rat liver cells (RTECS, 1996).BP caused mutations in human somatic kidney cells (RTECS, 1996).BP was not mutagenic in the Ames Salmonella microsome test, nor did it cause mutations in yeast.

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ORGANIC PEROXIDE TYPE C, SOLID	ORGANIC PEROXIDE TYPE C SOLID (BENZOYL PEROXIDE)
Hazard Class:	5.2	5.2
UN Number:	UN3104	UN3104
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 94-36-0 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 94-36-0: fire, sudden release of pressure.

Section 313

This material contains Benzoyl peroxide (CAS# 94-36-0, 67-75%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 94-36-0 is considered highly hazardous by OSHA.

STATE

CAS# 94-36-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI E

Risk Phrases:

R 2 Risk of explosion by shock, friction, fire or other sources of ignition.

R 36 Irritating to eyes.

R 43 May cause sensitization by skin contact.

Safety Phrases:

S 14 Keep away from ... (incompatible materials to be indicated by the manufacturer).

S 3 Keep in a cool place.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 7 Keep container tightly closed.

S 14A Keep away from acids, reducing agents and polymerisation catalysts.

WGK (Water Danger/Protection)

CAS# 94-36-0: 1

CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 94-36-0 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, F, C.

This product has been classified in accordance with the hazard criteria of the

Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 94-36-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 8/03/1998

Revision #7 Date: 3/15/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.