

## FB<sup>®</sup> Sodium Percarbonate

### Material Safety Data Sheet

**Chemical:** Sodium Carbonate  
Peroxyhydrate (PCS)

NFPA: H=2 F=0 I= 1 S=OX  
HMIS: H=2 F=0 R=1 PPE= Supplied by user;  
dependent on conditions

**MSDS Number:** PCS-0506  
**Effective Date:** 04 May 2006  
**Issued by:** Solvay Chemicals, Inc. Regulatory Affairs Department

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## 1. Company and Product Identification

**1.1 Product Name:** FB<sup>®</sup> Sodium Percarbonate  
**Chemical Name:** Sodium carbonate peroxyhydrate  
**Synonyms:** PCS, Sodium Percarbonate, Sodium Carbonate Peroxide, FB<sup>®</sup> 400  
**Chemical Formula:**  $2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$   
**Molecular Weight:** 314  
**CAS Number:** 15630-89-4  
**EINECS Number:** 239-707-6

**1.2 Recommended Uses:** Used as bleaching agents, cleaning / washing agents, oxidizing agents.

**1.3 Supplier:** Solvay Chemicals, Inc.  
PO BOX 27328 Houston, TX 77227-7328  
3333 Richmond Ave. Houston, Texas 77098

### 1.4 Emergency Telephone Numbers

**Emergencies (USA):** 1-800-424-9300 (CHEMTREC<sup>®</sup>)  
**Transportation Emergencies (INTERNATIONAL/MARITIME):** 1-703-527-3887 (CHEMTREC<sup>®</sup>)  
**Transportation Emergencies (CANADA):** 1-613-996-6666 (CANUTEC)  
**Transportation Emergencies (MEXICO-SETIQ):** 01-800-00-214-00 (MEX. REPUBLIC)  
525-559-1588 (Mexico City and metro area)



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## 2. Composition/Information on Ingredients

INGREDIENTS	FORMULA	WT. PERCENT	CAS #
Sodium Carbonate Peroxyhydrate	2Na <sub>2</sub> CO <sub>3</sub> · 3H <sub>2</sub> O <sub>2</sub>	>85	15630-89-4
Sodium Carbonate	Na <sub>2</sub> CO <sub>3</sub>	12.7	497-19-8
Sodium Metasilicate	Na <sub>2</sub> SiO <sub>3</sub>	1.4	6834-92-0

## 3. Hazards Identification

### Emergency Overview:

- Toxicity effects principally related to its irritating properties.
- Does not present any significant hazard to the environment.
- Supports combustion of other substances (oxidizing product).

**3.1 Route of Entry:** Inhalation: Yes Skin: Yes Ingestion: Yes

### 3.2 Potential Effects of exposure:

- Irritating to mucous membranes, eyes and skin.
- Risk of serious damage to eyes.

#### Inhalation:

- Nose and throat irritation.
- At high concentrations, cough.
- In case of repeated or prolonged exposure; risk of sore throat, nosebleeds, and chronic bronchitis.

#### Eyes:

- Severe eye irritation, watering, redness.
- Risk of serious or permanent eye lesions.

#### Skin contact:

- Slight irritation.
- In case of repeated contact: risk of dermatitis.

#### Ingestion:

- Severe irritation of the mouth, throat, esophagus and stomach.
- Bloating of stomach, belching.
- Nausea and vomiting.

**Carcinogenicity:** See section 11.3.

## 4. First-Aid Measures

**General Recommendations:** Do not dry soiled clothing near an open flame or incandescent heat source.

### 4.1 Inhalation:

- Remove the subject from dusty environment.
- Consult a physician in case of respiratory symptoms.

#### Eyes:

- Flush eyes as soon as possible with running water for 15 minutes, while keeping the eyelids open.
- In case of difficulty opening lids, administer analgesic eye-wash (oxybuprocaine).
- Consult an ophthalmologist in all cases.

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**Skin:**

- Remove contaminated shoes, socks and clothing; wash the affected skin with running water.
- Clean clothing.
- Consult a physician in case of persistent pain or redness.

**Ingestion:** Consult a physician immediately in all cases.

**If the subject is completely conscious:**

- Rinse and administer fresh water.
- Do **not** induce vomiting.

**If the subject is unconscious:**

- NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
- Loosen collar and tight clothing; lay the victim on his/her left side.
- Keep warm (blanket).
- Do **not** induce vomiting.

**4.2 Medical Treatment/Notes to Physician:** See Section 4.1 above.

## 5. Fire-Fighting Measures

**5.1 Flash point:** Not applicable.

**5.2 Auto-ignition Temperature:** Not applicable.

**5.3 Flammability Limits:** Non-flammable.

**5.4 Unusual Fire and Explosion Hazards:** Oxidizer.

**5.5 Extinguishing Methods****Common:**

- Water, water spray.
- In case of fire in close proximity, all means of extinguishing are acceptable (subject to sections below).

**Inappropriate extinguishing means:** No restriction.

**5.6 Fire Fighting Procedures****Specific hazards:**

- Oxygen released on exothermic decomposition may support combustion in case of surrounding fire.
- Pressure burst may occur due to decomposition in confined spaces/containers.
- Wet product decomposes exothermally and may cause combustion of organic materials.
- Do not spray the dry product with water, except in case of fire.

**Protective measures in case of intervention:**

- Evacuate all non-essential personnel.
- Intervention should only be made by personnel who are trained and aware of the hazards of product.

**Other precautions:** If safe to do so, remove the exposed containers.

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## 6. Accidental Release Measures

### 6.1 Precautions:

- Observe protective measures given in sections 5 and 8.
- Avoid materials and products which are incompatible with the product (see section 10).
- Avoid direct contact of the product with water.

### 6.2 Cleanup methods:

- Collect the product with suitable means, shovel, or sweep, avoiding dust formation.
- All receiving equipment should be clean, dry, vented, labeled and made of materials compatible with the product.
- Do not return spilled or contaminated material to inventory.
- In order to avoid the risk of contamination, the recovered product must not be returned to the original container, but isolated in a safe place.
- Clean area with large quantities of water.
- For disposal methods, refer to section 13.

**6.3 Precautions for protection of the environment:** Immediately notify the appropriate authorities in case of reportable spill.

## 7. Handling and Storage

### 7.1 Handling:

- Clean and dry process and other piping and equipment before using this product.
- Never return unused product to storage container.
- Keep away from incompatible products.
- Containers and equipment used to handle the product should be used exclusively for that product.
- Avoid contact with water from humidity.
- For more information consult the supplier.

### 7.2 Storage:

- Store in a dry area.
- Protect from direct sunlight.
- Store away from heat sources.
- Keep away from reactive products (see section 10).
- Store in vented containers.
- Store in temperatures less than 40°C (104°F).
- Container must be used exclusively for the product.

**7.3 Specific Uses:** See Section 1.2.

### 7.4 Other precautions:

- Warn personnel of the dangers of the product.
- Follow the protective measures given in section 8.

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#### 7.5 Packaging:

- Stainless Steel.
- PE.
- Paper and PE.
- Glass.
- Passivated Aluminum.

## 8. Exposure Controls/Personal Protection

### 8.1 Exposure Limit Values:

Authorized limit Values	TLV <sup>®</sup> ACGIH <sup>®</sup> -USA (2002)	OSHA PEL	SAEL (Solvay Acceptable Exposure Limit)
Particulates not otherwise classified (PNOC)	Inhalable 10 mg/m <sup>3</sup> TWA	Inhalable 15 mg/m <sup>3</sup> TWA	
	Respirable 3 mg/m <sup>3</sup> TWA	Respirable 5 mg/m <sup>3</sup> TWA	
Sodium Carbonate Peroxyhydrate			5 mg/m <sup>3</sup> TWA

ACGIH<sup>®</sup> and TLV<sup>®</sup> are registered trademarks of the American Conference of Governmental Industrial Hygienists.

SAEL is Solvay Acceptable Exposure Limit, Time-Weighted Average for 8-hour workdays.

No Specific TLV-STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV-TWA for no more than a total of 30 minutes during a workday and under no circumstances should they exceed 5 times the TLV-TWA.

### 8.2 Exposure Controls:

#### 8.2.1 Occupational Exposure Controls:

**8.2.1.1 Ventilation:** Provide ventilation in work areas to keep exposure below applicable limits. See Section 8.1

**8.2.1.2 Respiratory protection:** For many conditions, no respiratory protection may be needed; however in dusty or unknown atmospheres or when exposures exceed limit values, use NIOSH-approved dust respirator.

**8.2.1.3 Hand protection:** Protective gloves made of PVC, neoprene or rubber.

**8.2.1.4 Eye protection:** Wear dustproof goggles.

**8.2.1.5 Skin protection:** For brief contact, few precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use protective full-body clothing such as PVC or rubber, impervious to this material.

### 8.3 Other precautions:

- An eyewash and safety shower should be nearby and ready for use.
- Consult your industrial hygienist or safety manager for the selection of personal protective equipment suitable for the working conditions.

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#### 9. Physical and Chemical Properties

**9.1 Appearance:** granular solid.

**Color:** white.

**Odor:** odorless.

**9.2 Important Health, Safety and Environmental information: pH:**

10.4 -10.6 (1 % solution).

**Change of state:**

Melting point: Not applicable.

Boiling point: Not applicable.

Decomposition Temperature:  $\geq 50^{\circ}\text{C}$  (122°F) Self-accelerated decomposition temperature (SADT) with oxygen release.

**Flash Point:** Non-flammable.

**Flammability:** Non-flammable.

**Explosive Properties:** See section 5.

**Oxidizing Properties:** Weak oxidizer, See section 5.

**Vapor Pressure:** Not applicable.

**Relative Density:**

Specific gravity: No data.

(H<sub>2</sub>O=1)

**Bulk Density:** 1-1.2 g/cm<sup>3</sup>.

**Solubility:**

Water: 140 g/l @ 24°C (75°F).

Fat: Not applicable.

**Partition coefficient:** Not applicable.

P (n-octanol/water).

**Viscosity:** Not applicable.

**Vapor Density (air=1):** No data.

**Evaporation Rate:** No data.

**9.3 Other Information:** Not applicable.

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#### 10. Stability and Reactivity

**Stability:** Stable under certain conditions of use with slow gas release.

**10.1 Conditions to avoid:**

- Heat/Sources of heat.
- Moisture.

**10.2 Materials and substances to avoid:**

- Water.
- Acids.
- Bases.
- Salts of heavy metals.
- Reducing agents.
- Organic materials.
- Flammable substances.

**10.3 Hazardous decomposition products:** Oxygen; Decomposition releases steam and heat.

**10.4 Hazardous Polymerization:** Will not occur.

**10.5 Other information:** None.

#### 11. Toxicological Information

**11.1 Acute toxicity:**

**Inhalation:** LC<sub>50</sub>, 1 hour, rat, >4580 mg/m<sup>3</sup>.

**Oral:** LD<sub>50</sub>, rat (combined sexes), 1034 mg/kg.

**Dermal:** LD<sub>50</sub> lo, rabbit, >2000 mg/kg.

**Irritation:**

- Rabbit, Severe damage (eyes).
- Rabbit, Slight irritant (skin).

**Sensitization:** No sensitization was noted when administered as 75% w/v mixture during an induction and as a 25% w/v mixture at challenge.

**Comments:** Toxic effect linked with irritating properties.

**11.2 Chronic toxicity:** No data.

**11.3 Carcinogenic Designation:** None.

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#### 12. Ecological Information

##### 12.1 Acute ecotoxicity:

- Fish, Pimephales promelas;  $LC_{50}$ , 70.7 mg/L.
- Fish, Pimephales promelas; NOEC, 96 hours, 1 mg/L.
- Crustaceans, Daphnia pulex;  $EC_{50}$ , 4.9 mg/L.
- Crustaceans, Daphnia pulex; NOEC, 48 hours, 1 mg/L.

##### 12.2 Chronic ecotoxicity: No data.

##### 12.3 Mobility:

- Air - Not applicable.
- Water - Considerable solubility and mobility.
- Soil/sediments – Non-significant adsorption.

##### 12.4 Degradation

###### Abiotic:

- Air - Not applicable.
- Water - significant hydrolysis.  
Degradation products: sodium carbonate, carbon dioxide, bicarbonate, carbonate, hydrogen peroxide.
- Soil - hydrolysis.

###### Biotic: No data.

##### 12.5 Potential for bioaccumulation: Result: non-bioaccumulable.

##### 12.6 Other adverse effects /Comments: Toxic for aquatic organisms. Nevertheless, hazard for the environment is limited due to product properties:

- No bioaccumulation.
- Abiotic degradation.
- Low toxicity of degradation products.

#### 13. Disposal Considerations

##### 13.1 Waste treatment: Dispose of in approved waste facility operated by authorized contractor in compliance with federal, state and local regulations.

##### 13.2 Packaging treatment: Consult current federal, state and local regulations regarding the proper disposal of emptied containers.

##### 13.3 RCRA Hazardous Waste: D001 (Ignitable).



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#### 14. Transport Information

Mode	DOT	IMDG	IATA
UN Number	UN 3378	UN 3378	UN 3378
Class (Subsidiary)	5.1	5.1	5.1
Proper Shipping Name	Sodium carbonate peroxyhydrate	Sodium carbonate peroxyhydrate	Sodium carbonate peroxyhydrate
Hazard label (Subsidiary)	Oxidizer	Oxidizing Agent	Oxidizer
Marine Pollutant	No	No	No
Placard (Subsidiary)	Oxidizer (5.1)	3378	
Packing Group	III	III	III
Reportable Quantity			
MFAG			
Emergency Info	ERG 140	EmS F-A; S-P	ERG Code 5L

14.2 Consult with manufacturer before transporting in bulk.

#### 15. Regulatory Information

##### National Regulations (US)

**TSCA Inventory 8(b):** Yes.

**SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355):** No.

**SARA Title III Sec. 311/312 (40 CFR 370):**

Hazard Category Yes, Fire Hazard.  
Threshold planning quantity - 10,000 lbs.

**SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372):** No.

**CERCLA Hazardous Substance (40 CFR Part 302)**

Listed: No.  
Unlisted Substance: Yes, Reportable Quantity 100 lbs.  
Characteristic: Ignitability (D001).

**Other:** None.

##### State Component Listing:

NJ Right to Know Substance List.

##### National Regulations (Canada)

**Canadian DSL Registration:** DSL # 8694.

**WHMIS Classification:** C Oxidizing material.

D2B Poisonous and infectious material - other toxic effects.

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

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#### Labeling according to Directive 67/548/EEC.

Symbols	O	Oxidizing.
	Xi	Irritant.
Phrases R	8	Contact with combustible material may cause fire.
	22	Harmful if swallowed.
	38	Irritating to skin.
	41	Risk of serious damage to eyes.
Phrases S	3	Keep in a cool place.
	8	Keep container dry.
	17	Keep away from combustible material.
	24/25	Avoid contact with skin and eyes.
	26	In case of contact with eyes, rinse immediately with plenty of water.

## 16. Other Information

### 16.1 Ratings:

#### NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 2 Flammability = 0 Instability = 1 Special = OX

#### HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 2 Fire = 0 Reactivity = 1 PPE = Supplied by User; dependent on local conditions

**16.2 NSF:** Materials listed under NSF/ANSI Standard 60 - Drinking Water Treatment Chemicals - Health Effects has a maximum use in potable water as follows:

Material	Product Function	Maximum Use
Sodium Carbonate Peroxyhydrate	Oxidant	33mg/L

### 16.3 Other Information:

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

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### 16.3 Reason for revision:

Supersedes edition: Solvay Chemicals MSDS PCS-1105 dated 11-15-05.

Purpose of revision: Section 14 - Update DOT Packing Group; Section 16.2

Update NSF maximum use limit.