Sodium Carbonate Peroxyhydrate

Material Safety Data Sheet

(91/155/EWG) Rev. No. 08, Rev. Date : 2007-04-17

SECTION 1. Chemical Product & Company Identification

Chemical Name	Sodium Carbonate Peroxyhydrate
Synonym	PCS, Sodium Percarbonate, Sodium Carbonate Peroxide
Company	DC Chemical Co,. Ltd.
	50 Sokong-dong Chung-Ku, Seoul, Korea
Phone	(82) – 2 – 7279 – 500
Emergency Call	(82) – 63 – 830 – 7777
Material Identification	
• **CAS Number**	15630 – 89 – 4
• **UN Number**	3378
• **EINECS Number**	239 – 707 – 6
• **Substance**	Oxidizing Solid, n.o.s.

Not valid two years after effective date or after issuance of superseding MSDS, whichever is earlier. Translations of this MSDS may be available.

Check www.dcchem.co.kr or call DC Chemical Corporation at (82)-2-7279-500 to verify the latest version or translation availability

SECTION 2. Composition/ Information on Ingredients

Ingredients	CAS No.	Wt.%
Sodium Carbonate Peroxyhydrate	15630-89-4	≥85
Sodium Carbonate	497-19-8	≤5
Sodium Metasilicate	6834-92-0	≤1.4

Symbol(s)	O, Xn
R-phrase(s)	R8, R22, R41

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SECTION 3. Hazards Identification

● **Emergency Overview**

1) Harmful if inhaled or swallowed.

2) Eye contact may cause serious irritation.

3) Skin contact may cause irritation.

4) The material is an oxidizing agent that can be decomposed by water, direct sources of heat, catalyst, etc.

5) Decomposition releases oxygen and heat.

6) Decomposition in the presence of combustible materials (wood, cloth, etc) may cause fire.

7) Use and store under adequate ventilation.

8) Wash thoroughly after handling.

9 Handle with caution.

10) Not explosive.

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● Primary Routes of Entry And Potential Health Effects

Inhalation

• Short term exposure : Nose and throat irritation, cough

• Repeated or prolonged exposure : Risk of throat, nose bleeds, chronic bronchitis

Skin Contact

• Short term exposure: Irritation

• Repeated or prolonged contact: Dermatitis

Eye Contact

• Severe watering, irritation and redness, can cause conjunctivitis

• Risk of serious eye lesions

Ingestion

• Severe irritation of the mouth, throat, esophagus and stomach

• Bloating of stomach, belching and nausea, vomiting

Medical conditions aggravated by exposure

• Pre-existing skin, eye and respiratory disorders

NOT A CARCINOGEN

• Not listed in National Toxicology Program Annual Report on Carcinogens

• Not found to be a potential carcinogen in the International Agency for Research on Cancer Monographs

• Not found to be a potential carcinogen by OSHA

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SECTION 4. First-Aid Measures

Inhalation

• Remove the subject from exposure immediately and perform artificial respiration, if needed.

• Get medical attention in case of respiratory symptoms.

Skin Contact

• Remove contaminated clothing, shoes, etc. immediately.

• Wash the affected skin with soap or mild detergent and large quantities of running water until no evidence of chemical remains.

• Get medical attention in case of persistent pain or redness

Eye contact:

• Remove contact lenses.

• Flush eyes immediately with large quantities of running water, while keeping eyelids wide open (at least for 15~20 minutes).

• Get medical attention immediately.

Ingestion:

• Get medical attention immediately

• If the subject is completely conscious, give 2~4 glasses of water to dilute the chemical. Do not induce vomiting.

• If the subject is unconscious, loosen tight clothing and lay the victim on his/her left side. Give nothing by mouth and do not induce vomiting.

Antidote:

• No specific antidote

• Treat symptomatically and supportively

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SECTION 5. Fire-Fighting Measures

Fire and Explosion Hazard:

1) Flash Point	Not Applicable
2) Auto-ignition	Not Applicable
3) Non-flammable and Non-explosive	

- Oxidizing substance which can be decomposed by water, direct sources of heat, catalysts, etc.
- Decomposition releases oxygen and heat which can support combustion and cause pressure bursts in confined spaces or containers.
- Decomposition in the presence of organic materials can be highly exothermic and may cause combustion.

Extinguishing Media:

- Flood with water for extinguishing agent.

Fire Fighting:

- Evacuate all non-essential personnel from fire area.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- The personnel should wear normal protective equipment and positive self-contained breathing apparatus.
- Move unaffected product to a safe area if safe to do so.
- Use copious amounts of water to extinguish fire.

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SECTION 6. Accidental Release Measures

Precautions

- Observe the protection 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 moisture, except for emergencies and clean up as described in this MSDS.

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 material is compatible with the product.
- Do not return spilled or contaminated material to inventory.
- Clean the area with large quantities of water.
- For disposal methods, refer to section 13.

SECTION 7. Handling and Storage

Handling

- Clean and dry process piping and equipment before using the product.
- Never return unused product to original container. Keep away from incompatible products.
- Containers and equipment used to handle the product should be used exclusively for that product.
- Avoid any contact with moisture or humidity, except for emergencies and clean up as described in this MSDS.

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Storage

- In a cool and dry area (protect from direct sunlight).
- Keep away form heat and humidity sources.
- Keep away from reactive products (see section 10).
- Store in vented containers.

SECTION 8. Exposure Controls and Personal Protection

Exposure Limits

• OSHA PEL	Particulates not otherwise classified.
Total dust	15 mg/m^3
Respirable fraction	5 mg/m^3
• ACGIH® TLV®	Particulates not otherwise classified.
Inhalable	10mg/m^3 (1996)
Respirable	3 mg/m^3
• TNA	No data available
STEL	No data available

Eye Protection

- Splash-proof or dust-proof safety goggles and face shield

Hand Protection

- Appropriate impervious and chemical resistant gloves.

Respiratory Protection

- Specific respirator should be selected based on contamination levels found in the work place and jointly approved by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA)

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Appropriate Hygienic Practices

- Wash hands carefully and thoroughly after handling
- Remove contaminated clothing and wash before reuse
- Avoid contact with skin and eyes

Protective measures during repair and maintenance of equipment

- No additional protection required, follow MSDS provisions for exposure controls and personal protection

SECTION 9. Physical and Chemical Properties

• Appearance	Free flowing white granular powder
• Molecular Formula	$2Na_2CO_3 \cdot 3H_2O_2$
• Water solubility(g/ℓ)	140 (at 20℃)
• PH	10.0 ± 1.0 (1% Solution)
• Evaporation Rate (butyl acetate = 1)	No data available
• Specific Heat	No data available
• Flammability	Not applicable
• Flammability	Non ignitible
• Melting Point	Not applicable
• Boiling Point	Not applicable
• Vapor Pressure	Negligible

- Sodium Carbonate Peroxyhydrate dissociates into Sodium Carbonate and Hydrogen Peroxide in aqueous solution, and dissociated Hydrogen Peroxide decomposes into water and free oxygen.

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SECTION 10. Stability and Reactivity

Stability

• Stable, under certain conditions (see below)

Conditions to Avoid

• Heat or flame

• Moisture, except for emergencies and clean up as described in this MSDS.

Materials to Avoid

• Water and other liquids except for emergencies and clean up as described in this MSDS.

• Acids

• Bases

• Salts of metals

• Reducing agents

• Organic materials

• Flammable substances

Hazardous decomposition products

• Oxygen : Decomposition releases steam and heat

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SECTION 11. Toxicological Information

Acute Toxicity

• Irritation	1 hour, rat, > 4580 mg/m^3
• Oral	LD_{50}, rat, >1034 mg/kg
• Dermal	LD_{50}, rabbit, > 2000mg/kg
• Irritation	Rabbit, Severe damage (eyes)
	Rabbit, Slight irritant (skin)
• Sensitization	No sensitization was noted when administered as a 76% w/v
• Comments	mixture during induction and as a 25% w/v mixture at challenge.
	Toxic effect linked with irritating properties.
• Chronic toxicity	No data
• Carcinogenic Designation	None

SECTION 12. Ecological Information

Acute ecotoxicity• Toxicity to Fish

LC_{50} Pimephales promelas	70.7 mg/L / 96 h
NOEC Pimephales promelas	7.4 mg/L / 96 h

• Toxicity to daphnia

EC_{50} Daphnia pulex	4.9 mg/L /48 h
NOEC Daphnia pulex	2 mg/L / 48 h

Chronic ecotoxicity No data

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SECTION 13. Disposal Considerations

- RCRA hazardous waste #D001 if discarded
- Dispose of in an approved waste facility operated by an authorized contractor in compliance with relevant regulations.
- The empty and clean containers are to be recycled or disposed of in conformity with local regulations.

SECTION 14. Transport Information

Land transport ADR/RID/GGVSE(Germany)

• Class	5.1
• ADR/RID-Labels	5.1
• UN-No	3378
• Packaging group	III
• orange warning plate	50/3378
• Description of the goods	Sodium Percarbonate Peroxyhydrate

Sea transport IMDG-Code/GGVSee

• Class	5.1
• UN-No	3378
• Packaging group	III
• EmS	F-A, S-Q
• Proper technical name (Proper shipping name)	Sodium Percarbonate Peroxyhydrate

Air transport ICAO-TI/IATA-DGR

• Class	5.1
• UN-No	3378
• Packaging group	III
• Proper technical name	Sodium Percarbonate Peroxyhydrate

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Inland waterway transport AND/ADNR/GGVBinSch(Germany)

• Class	5.1
• ADR/RID-Labels	5.1
• UN-No	3378
• Packaging group	III
• Description of goods (Technical name)	Sodium Percarbonate Peroxyhydrate

Transport/further information

• Protect from heat, as cool as possible,

• Transport as dry as possible.

SECTION 15. Regulatory Information

- **Labeling according to EC Directives(67/548/EEC)**

Symbol	O	Oxidizing
	Xn	Harmful
R-Phrases	R8	Contact with combustible material may cause fire
	R22	Harmful if swallowed.
	R41	Risk of serious damage to eyes.
S-Phrases	S3	Keep in a cool place.
	S8	Keep container dry.
	S17	Keep away from combustible material.
	S24/25	Avoid Contact with skin and eyes.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advise

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SECTION 16. Other Information

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