

# SAFETY DATA SHEET

according to the Global Harmonized System

## PERKADOX BC-FF SOLID (IBC)

Version 1

Revision Date 04/25/2015

Print Date 06/25/2015

REG\_NA / Z8

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Information**

Trade name : PERKADOX BC-FF SOLID (IBC)

Use of the Substance/Mixture : Specific use(s): Cross-linking agent

Company : Akzo Nobel Functional Chemicals LLC  
525 West Van Buren  
US 60607-3823 Chicago  
USA

Telephone : +18008287929

Telefax : +13125447188

E-mail address : RegulatoryAffairs@akzonobel.com

Emergency telephone : AkzoNobel: +31 57 06 79211 CHEMTREC - USA: 1-800-424-9300 CANUTEC - CANADA: 1-613-996-6666

### 2. HAZARDS IDENTIFICATION

**GHS Classification**

Organic peroxides, Type F

Skin corrosion/irritation, Category 2

Serious eye damage/eye irritation, Category 2B

Acute aquatic toxicity, Category 2

Chronic aquatic toxicity, Category 2

**GHS-Labeling**

Symbol(s) :



Signal Word : Warning

Hazard Statements : H242  
H315 + H320

Heating may cause a fire.  
Causes skin and eye irritation.

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	H411	Toxic to aquatic life with long lasting effects.
Precautionary Statements	: <b>Prevention:</b>	
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P220	Keep away from dirt, rust, chemicals in particular.
	P234	Keep only in original packaging.
	P235	Keep cool.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/ eye protection/ face protection.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous ingredients

Chemical Name	CAS-No.	GHS Classification	Concentration[%]
Dicumyl peroxide	80-43-3	Org. Perox. F; H242 Skin Corr./Irrit. 2; H315 Eye Dam./Irrit. 2B; H320 Aquatic Acute 2; H401 Aquatic Chronic 2; H411	>= 90 - <= 100

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attendance.
- Inhalation : Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Wash the skin immediately with soap and water.  
If skin irritation persists, call a physician.
- Eye contact : Rinse with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
Obtain medical attention.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

### Notes to physician

- Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
- Treatment : Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet

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|--|--|
| Specific hazards during fire fighting / Specific hazards arising from the chemical | : CAUTION: reignition may occur.<br>Supports combustion.<br>Do not use a solid water stream as it may scatter and spread fire.<br>Water spray may be ineffective unless used by experienced firefighters.<br>Heating may cause decomposition with release of toxic fumes.<br>Do not allow run-off from fire fighting to enter drains or water courses. |
| Combustion products  | : No hazardous combustion products are known   |
| Special protective equipment for fire-fighters                                     | : In the event of fire, wear self-contained breathing apparatus.   |
| Further information  | : Use water spray to cool unopened containers.<br>Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  |

See also Section 9. Physical and chemical properties: Safety data

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## 6. ACCIDENTAL RELEASE MEASURES

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|--|---|
| Personal precautions                                 | : Use personal protective equipment.<br>Ensure adequate ventilation.<br>Remove all sources of ignition.   |
| Environmental precautions                            | : Prevent product from entering drains.<br>If the product contaminates rivers and lakes or drains inform respective authorities.  |
| Methods for cleaning up /<br>Methods for containment | : Keep wetted with water.<br>Soak up with inert absorbent material and dispose of as hazardous waste.<br>Confinement must be avoided.<br>Pick up and arrange disposal without creating dust.<br>Keep in suitable, closed containers for disposal.<br>Never return spills in original containers for re-use. |
| Additional advice                                    | : For personal protection see section 8.  |

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## 7. HANDLING AND STORAGE

### Handling

- |                         |   |
|-------------------------|---|
| Advice on safe handling | : For personal protection see section 8.<br>Avoid formation of respirable particles.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Open drum carefully as content may be under pressure.<br>Dispose of rinse water in accordance with local and national |
|-------------------------|---|

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regulations.

Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Use explosion protected equipment.  
Provide appropriate exhaust ventilation at places where dust is formed.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).  
Do not cut or weld on or near this container even when empty.  
Keep away from combustible material.

Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

## Storage

Requirements for storage areas and containers : No smoking.  
Electrical installations / working materials must comply with the technological safety standards.  
Keep only in original container.  
Store away from other materials.

Maximum storage temperature: : 35 °C (95 °F)

Other data : No decomposition if stored and applied as directed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methane	74-82-8, 74-82-8	TWA	0.1 mg/m3	1989-01-19	OSHA P0	
	Further information	:	Formaldehyde			
	Further information	:	See Appendix F: Minimal Oxygen Content Asphyxia			
		TWA	0.1 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	'Ca' in the presence of formaldehyde, acetaldehyde, or malonaldehyde. See Appendices A & C (Aldehydes).			
			Formaldehyde			
Acetophenone, Acetophenone	98-86-2, 98-86-2	TWA	10 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Pregnancy loss			
		TWA	10 ppm	2008-01-01	US WEEL	

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## Engineering Controls

Explosion proof ventilation recommended.

Ensure that eyewash stations and safety showers are close to the workstation location.

## Personal protective equipment

Respiratory protection : Handle in accordance with good industrial hygiene and safety practice.

Hand protection : butyl-rubber  
Neoprene

Eye protection : Tightly fitting safety goggles

Skin and body protection : Protective suit

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

## Environmental exposure controls

General advice : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form : solid

Color : white

Odor : faint

Odor Threshold : No data available

### Safety data

pH : neutral

Melting point : 39.5 °C

Boiling point/boiling range : Decomposes below the boiling point.

Flash point : Not applicable

Evaporation rate : Not applicable

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Flammability (solid, gas)	: Decomposition products may be flammable.
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapor pressure	: 0.3 hPa at 101 °C
Relative vapor density	: Not applicable
Relative density	: 1.1 at 20 °C
Bulk density	: 660 kg/m3 at 20 °C
Water solubility	: at 20 °C insoluble
Solubility in other solvents	: Soluble in most organic solvents.
Partition coefficient: n-octanol/water	: log Pow: 5.6 at 25 °C
Autoignition temperature	: Test method not applicable
Decomposition temperature	: SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	: 70 °C
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not classified as oxidizing.
Active Oxygen Content	: 5.86 %
Organic peroxides	: 99 %

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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## 10. STABILITY AND REACTIVITY

Conditions to avoid	: A high degree of confinement must be avoided. Heat, flames and sparks.  For safety, store below: 35 °C (95 °F)
Materials to avoid	: Contact with incompatible materials will result in hazardous decomposition. For queries regarding the suitability of other materials please contact the supplier. Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. Acids and bases Iron Copper Reducing agents Heavy metals Rust
Hazardous decomposition products	: Methane Acetophenone 2-Phenylisopropanol
Thermal decomposition	: SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under recommended storage conditions.
Hazardous reactions	: No dangerous reaction known under conditions of normal use.
Self-Accelerating decomposition temperature (SADT)	: 70 °C (158 °F)

## 11. TOXICOLOGICAL INFORMATION

### Product information:

### Hazard Summary

Inhalation : Thermal decomposition can lead to release of irritating gases



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and vapors.

Skin : Causes skin irritation.

Eyes : Causes serious eye irritation.

Ingestion : May cause irritation of the mucous membranes.

## Toxicology Assessment

Further information : No further data available.

## Toxicology data for the ingredients:

### Test result

#### Component: Dicumyl peroxide

Skin irritation : Result: Irritating to skin.

Eye irritation : Result: slight irritation

Sensitization : Result: Not sensitizing.

Germ cell mutagenicity

Genotoxicity in vitro : reverse mutation assay  
Salmonella typhimurium  
Result: negative  
Method: OECD Test Guideline 471

reverse mutation assay  
Escherichia coli  
Result: negative

In vitro mammalian cell gene mutation test  
Chinese hamster lung fibroblasts  
Result: negative  
Method: OECD Test Guideline 476

In vitro mammalian cell gene mutation test  
Chinese hamster lung fibroblasts  
Result: negative  
Method: OECD Test Guideline 473

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## 12. ECOLOGICAL INFORMATION

### Product information:

#### Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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Toxic to aquatic life with long lasting effects.

## Ingredients:

## Test result

### Component: Dicumyl peroxide

#### Ecotoxicity effects

Toxicity to fish : LC50: > 1 - 10 mg/l  
Exposure time: 96 h

Toxicity to fish (Chronic toxicity) : 0.011 - 0.1 mg/l

#### Elimination information (persistence and degradability)

Bioaccumulation : Bioconcentration factor (BCF): 1,470

Mobility : No data available

Biodegradability : Result: Inherently biodegradable.

#### Further information on ecology

Biochemical Oxygen Demand (BOD) : No data available

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## 13. DISPOSAL CONSIDERATIONS

Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Hazardous waste  
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.  
Due to the high risk of contamination recycling/recovery is not recommended.  
Follow all warnings even after the container is emptied.

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## 14. TRANSPORT INFORMATION

### International Regulation

IATA-DGR

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UN/ID No. : UN 3110  
Proper shipping name : Organic peroxide type F, solid  
(Dicumyl peroxide)  
Class : 5.2  
Subsidiary risk : HEAT  
Packing group : Not Assigned  
Labels : 5.2 (HEAT)  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570  
Environmentally hazardous : no

## IMDG-Code

UN number : UN 3110  
Proper shipping name : ORGANIC PEROXIDE TYPE F, SOLID  
(Dicumyl peroxide)  
Class : 5.2  
Packing group : Not Assigned  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : yes  
(Dicumyl peroxide)

## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## 15. REGULATORY INFORMATION

### Notification status

CH INV : YES. On the inventory, or in compliance with the inventory  
TSCA : YES. All chemical substances in this product are either listed on the  
TSCA Inventory or in compliance with a TSCA Inventory exemption.  
DSL : YES. All components of this product are on the Canadian DSL.  
AICS : YES. On the inventory, or in compliance with the inventory  
NZIoC : NO. On the inventory, or in compliance with the inventory  
ENCS : YES. On the inventory, or in compliance with the inventory  
ISHL : YES. On the inventory, or in compliance with the inventory  
KECI : YES. On the inventory, or in compliance with the inventory  
PICCS : YES. On the inventory, or in compliance with the inventory  
IECSC : YES. On the inventory, or in compliance with the inventory

For explanation of abbreviations, see section 16.

## 16. OTHER INFORMATION

### Full text of H-Statements

H242 : Heating may cause a fire.  
H315 : Causes skin irritation.  
H320 : Causes eye irritation.  
H401 : Toxic to aquatic life.  
H411 : Toxic to aquatic life with long lasting effects.

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## Notification status explanation

CH INV	Switzerland. New notified substances and declared preparations
TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

## Further information

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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