

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PERKADOX GB-50X

:

Manufacturer or supplier's details

Company : Nouryon Functional Chemicals B.V.
Haaksbergweg 88
NL 1101 BZ Amsterdam
Netherlands

Address : Haaksbergweg 88
Amsterdam 1101 BZ

Telephone : +31889840367

Emergency telephone number : 24 hours:+31 57 06 79211, US-CHEMTREC:1-800-424-9300,
CA-CANUTEC:1-613-996-6666, JP: +81 (836) 74 8810, CN: 化
学事故应急咨询电话 : +86 532 8388 9090-:
Nouryon Emergency Response Centre: +31 570 679211
National Registration Centre of Chemicals (NRCC): +86 532
8388 9090

E-mail address : polymer.emeia@nouryon.com

Recommended use of the chemical and restrictions on use

Recommended use : Curing agent

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	: powder
Colour	: white
Odour	: Faint.

Heating may cause a fire. May cause an allergic skin reaction. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

GHS Classification

Organic peroxides	:	Type D
Serious eye damage/eye irritation	:	Category 2A
Skin sensitisation	:	Category 1
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 1

GHS label elements

Hazard pictograms	:	
-------------------	---	--

Signal word	:	Danger
-------------	---	--------

Hazard statements	:	H242 Heating may cause a fire. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H410 Very toxic to aquatic life with long lasting effects.
-------------------	---	--

Precautionary statements	:	Prevention: P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. P220 Keep/ Store away from clothing/ combustible materials. P234 Keep only in original container. P235 Keep cool. P261 Avoid breathing dust. P264 Wash skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. Response: P302 + P352 IF ON SKIN: Wash with plenty of water.
--------------------------	---	--

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
 P391 Collect spillage.

Storage:

P410 Protect from sunlight.
 P420 Store away from other materials.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Physical and chemical hazards

Heating may cause a fire.

Health hazards

Causes serious eye irritation. May cause an allergic skin reaction.

Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification

Dust can form an explosive mixture in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Ethylene glycol dibenzoate	94-49-5	>= 47 -<= 51
Dibenzoyl peroxide	94-36-0	>= 48 -<= 52

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

4. FIRST AID MEASURES

- | | | |
|---|---|--|
| General advice | : | Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance. |
| If inhaled | : | Remove to fresh air.
Keep patient warm and at rest.
Rinse nose and mouth with water. |
| In case of skin contact | : | Take off contaminated clothing and shoes immediately.
Wash the skin immediately with soap and water.
If skin irritation persists, call a physician. |
| In case of eye contact | : | Rinse with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Obtain medical attention. |
| If swallowed | : | Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Obtain medical attention. |
| Most important symptoms and effects, both acute and delayed | : | The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
May cause an allergic skin reaction.
Causes serious eye irritation. |
| Notes to physician | : | Treat symptomatically. |

5. FIREFIGHTING MEASURES

- | | | |
|--------------------------------------|---|--|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during firefighting | : | CAUTION: reignition may occur.
Supports combustion.
Do not use a solid water stream as it may scatter and spread |

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

fire.
 Water spray may be ineffective unless used by experienced firefighters.
 Do not allow run-off from fire fighting to enter drains or water courses.
 Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.
 Hazardous decomposition products formed under fire conditions.

- Hazardous combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).
- Specific extinguishing methods : Use water spray to cool unopened containers.
 Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
 Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
 Wear respiratory protection.
 Avoid dust formation.
 Avoid breathing dust.
 Ensure adequate ventilation.
 Remove all sources of ignition.
- Environmental precautions : Prevent product from entering drains.
 Discharge into the environment must be avoided.
- Methods and materials for containment and cleaning up : Keep wetted with water.
 Confinement must be avoided.
 Pick up and arrange disposal without creating dust.
 Collect in plastic container for disposal as hazardous waste.
 Never return spills in original containers for re-use.
- Prevention of secondary hazards : Evacuate personnel to safe areas.
 Only qualified personnel equipped with suitable protective

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

equipment may intervene.
Prevent unauthorised persons entering the zone.

7. HANDLING AND STORAGE

Handling

- 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.
- Advice on safe handling : For personal protection see section 8.
Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin, eyes and clothing.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Smoking, eating and drinking should be prohibited in the application area.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
- Avoidance of contact : Contact with the following incompatible materials will result in hazardous decomposition:
Acids and bases
Iron
Copper
Reducing agents
Heavy metals
Rust
Do not mix with peroxide accelerators, unless under controlled processing.
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.
For queries regarding the suitability of other materials please

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

contact the supplier.

Storage

Conditions for safe storage : No smoking.
 Keep in a dry place.
 Electrical installations / working materials must comply with the technological safety standards.
 Store at room temperature in the original container.
 Keep only in original container.
 Store away from other materials.

Further information on storage stability : Do not allow to dry out.
 Maximum storage temperature is for quality only.

Maximum storage temperature: : 25 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Dust 4 mg/m³
 Value type (Form of exposure): TWA (Total dust)
 Basis: CN OEL

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dibenzoyl peroxide	94-36-0	PC-TWA	5 mg/m ³	CN OEL
		TWA	5 mg/m ³	ACGIH

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Benzoic acid	65-85-0	TWA (Inhalable fraction and vapor)	0.5 mg/m ³	ACGIH

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version 5.4 Revision Date: 2023/06/08 CN / EN Date of last issue: 2023/05/09
Date of first issue: 2018/04/19

Benzene	71-43-2	PC-TWA	6 mg/m3	CN OEL
	Further information: G1 - Carcinogenic to humans, Skin			
		PC-STEL	10 mg/m3	CN OEL
	Further information: G1 - Carcinogenic to humans, Skin			
		TWA	0.5 ppm	ACGIH
		STEL	2.5 ppm	ACGIH
Carbon dioxide	124-38-9	PC-TWA	9,000 mg/m3	CN OEL
		PC-STEL	18,000 mg/m3	CN OEL
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH

Engineering measures : Explosion proof ventilation recommended.
Provide appropriate exhaust ventilation at places where dust is formed.
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : Half mask with a particle filter P2 (EN 143)
Half mask with a particle filter P2 (EN 143)

Eye/face protection : Tightly fitting safety goggles

Skin and body protection : Protective suit

Hand protection

Material : Neoprene

Material : Nitrile rubber

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.
Wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Appearance	:	powder
Colour	:	white
Odour	:	Faint.
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point	:	Decomposes before melting.
Boiling point/boiling range	:	Decomposes below the boiling point.
Flash point	:	Above the SADT value
Evaporation rate	:	No data available
Flammability (solid, gas)	:	May form combustible dust concentrations in air. Remarks: Decomposition products may be flammable.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Bulk density	:	640 kg/m ³ (20 °C)
Solubility(ies)		
Water solubility	:	insoluble (20 °C)
Solubility in other solvents	:	No data available

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	520 °C Method: Auto-ignition of a dust cloud according to EN 80079-20-2 G-G oven
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)	:	55 °C
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Not classified as oxidising.
Dust deflagration index (Kst)	:	426 m.b_/s
Dust explosion class	:	St3
Minimum ignition energy	:	1.2 mJ
Active Oxygen Content	:	3.3 %
Organic peroxides	:	48 - 52 %

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

10. STABILITY AND REACTIVITY

- | | | |
|------------------------------------|---|---|
| Reactivity | : | Stable under normal conditions. |
| Chemical stability | : | Stable under recommended storage conditions. |
| Possibility of hazardous reactions | : | Dust may form explosive mixture in air. |
| Conditions to avoid | : | Do not allow to dry out.
Confinement must be avoided.
Heat, flames and sparks. |
| Incompatible materials | : | Contact with the following incompatible materials will result in hazardous decomposition:
Acids and bases
Iron
Copper
Reducing agents
Heavy metals
Rust
Do not mix with peroxide accelerators, unless under controlled processing.
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.
For queries regarding the suitability of other materials please contact the supplier. |
| Hazardous decomposition products | : | No decomposition if stored and applied as directed. |
| Hazardous decomposition products | : | Carbon oxides
Benzoic acid
Benzene
Carbon dioxide |
| 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. |

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Self-Accelerating decomposition temperature (SADT) : 55 °C

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
 Method: OECD Test Guideline 423
 GLP: yes
 Assessment: The substance or mixture has no acute oral toxicity

Dibenzoyl peroxide:

Acute oral toxicity : LD50 (Mouse, male and female): > 2,000 mg/kg
 Method: OECD Test Guideline 401
 GLP: yes

: LD50 (Rat, male): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): > 24.3 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403
 Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Species : Rabbit
 Exposure time : 4 h
 Method : OECD Test Guideline 404

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Result : No skin irritation
 GLP : yes

Dibenzoyl peroxide:

Species : Rabbit
 Exposure time : 4 h
 Method : OECD Test Guideline 404
 Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Ethylene glycol dibenzoate:

Species : Rabbit
 Result : No eye irritation
 Exposure time : 1 h
 Method : OECD Test Guideline 405
 GLP : yes

Dibenzoyl peroxide:

Species : Rabbit
 Result : Irritation to eyes, reversing within 7 days

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Test Type : Local lymph node assay (LLNA)
 Exposure routes : Dermal
 Species : Mouse
 Method : OECD Test Guideline 429
 Result : Not a skin sensitizer.
 GLP : yes

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Dibenzoyl peroxide:

Species : Guinea pig
 Assessment : May cause sensitisation by skin contact.
 Method : OECD Test Guideline 406

Test Type : Local lymph node assay (LLNA)
 Species : Mouse
 Assessment : The product is a skin sensitiser, sub-category 1A.
 Method : OECD Test Guideline 429

Germ cell mutagenicity

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Genotoxicity in vitro : Test Type: reverse mutation assay
 Test system: Bacteria
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative
 GLP: yes

: Test Type: Chromosome aberration test in vitro
 Test system: Human lymphocytes
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative
 GLP: yes

: Test Type: In vitro gene mutation study in mammalian cells
 Test system: mouse lymphoma cells
 Metabolic activation: with and without metabolic activation
 Result: negative
 GLP: yes

Genotoxicity in vivo : Species: Mouse (male)
 Cell type: Bone marrow
 Application Route: Oral
 Dose: 2000 mg/kg total
 Method: OECD Test Guideline 474
 Result: negative

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

GLP: yes

Germ cell mutagenicity - Assessment : Based on available data, the classification criteria are not met.

Dibenzoyl peroxide:

Genotoxicity in vitro : Test Type: In vitro gene mutation study in mammalian cells
 Test system: mouse lymphoma cells
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative
 GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
 Species: Mouse (male)
 Cell type: Bone marrow
 Application Route: Intraperitoneal
 Method: OECD Test Guideline 474
 Result: negative
 GLP: yes

Germ cell mutagenicity - Assessment : Not mutagenic.

Carcinogenicity

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.

Dibenzoyl peroxide:

Remarks : Not classified due to data which are conclusive although insufficient for classification.

Carcinogenicity - Assessment : Not carcinogenic.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Reproductive toxicity

Not classified based on available information.

Components:

Ethylene glycol dibenzoate:

Effects on fertility : Test Type: reproductive and developmental toxicity study
 Species: Rat, male and female
 Application Route: Oral
 Dose: 100, 300, 1000 mg/kg bw/day
 Frequency of Treatment: 1 daily
 General Toxicity - Parent: NOAEL: 300 mg/kg bw/day
 General Toxicity F1: NOAEL: 300 mg/kg bw/day
 Method: OECD Test Guideline 422
 Result: Animal testing did not show any effects on fertility.
 GLP: yes

Effects on foetal development : Species: Rat, male and female
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 300 mg/kg bw/day
 Developmental Toxicity: NOAEL: 300 mg/kg bw/day
 Method: OECD Test Guideline 422
 Result: No effects on fertility, No effects on reproduction parameters, Some evidence of adverse effects on development, based on animal experiments.
 GLP: yes

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

Dibenzoyl peroxide:

Effects on fertility : Test Type: reproductive and developmental toxicity study
 Species: Rat, male and female
 Application Route: Oral
 General Toxicity F1: NOAEL: 500 mg/kg bw/day
 Method: OECD Test Guideline 422
 GLP: yes

Effects on foetal development : Species: Rat
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 300 mg/kg bw/day
 Embryo-foetal toxicity: NOAEL: 300 mg/kg bw/day
 Method: OECD Test Guideline 414

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

GLP: yes

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Did not show teratogenic effects in animal experiments.

STOT - single exposure

Not classified based on available information.

Components:

Dibenzoyl peroxide:

Exposure routes : Ingestion
 Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Not classified based on available information.

Components:

Dibenzoyl peroxide:

Exposure routes : Ingestion
 Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

Ethylene glycol dibenzoate:

Species : Rat, male and female
 NOAEL : 300 mg/kg
 LOAEL : 1,000 mg/kg
 Application Route : Oral
 Exposure time : 92 d
 Number of exposures : 1 /day
 Method : OECD Test Guideline 422
 GLP : yes

Aspiration toxicity

Not classified based on available information.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Components:

Dibenzoyl peroxide:

No aspiration toxicity classification

Further information

Product:

Remarks : No further data available.

Remarks : No further data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Ethylene glycol dibenzoate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0.434 mg/l
 Exposure time: 96 h
 Test Type: static test
 Method: OECD Test Guideline 203
 GLP: yes
 Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 2.4 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
 GLP: yes
 Remarks: No toxicity at the limit of solubility

NOEC (Daphnia magna (Water flea)): 2.4 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
 GLP: yes
 Remarks: No toxicity at the limit of solubility

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.87 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes
 Remarks: No toxicity at the limit of solubility
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.045 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes
- Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.073 mg/l
 End point: mortality
 Exposure time: 34 d
 Test Type: semi-static test
 Method: OECD Test Guideline 210
 GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.79 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Test Type: semi-static test
 Method: OECD Test Guideline 211
 GLP: yes
- NOEC (Daphnia magna (Water flea)): 0.65 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Test Type: semi-static test
 Method: OECD Test Guideline 211
 GLP: yes
- Toxicity to microorganisms : EC50 (activated sludge): > 1,280 mg/l
 Exposure time: 3 h
 Test Type: static test
 Method: OECD Test Guideline 209
 GLP: yes

Ecotoxicology Assessment

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Dibenzoyl peroxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.06 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Method: OECD Test Guideline 203
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.11 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
 GLP: yes

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 0.02 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes

M-Factor (Acute aquatic toxicity) : 10

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.001 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Test Type: semi-static test
 Analytical monitoring: yes
 Method: OECD Test Guideline 211
 GLP: yes

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): 35 mg/l
 Exposure time: 0.5 h
 Test Type: Respiration inhibition
 Method: OECD Test Guideline 209
 GLP: yes

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Persistence and degradability

Components:

Ethylene glycol dibenzoate:

Biodegradability : Result: Readily biodegradable.
 Biodegradation: 89.7 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301F
 GLP: yes

Dibenzoyl peroxide:

Biodegradability : Ready biodegradability
 Inoculum: activated sludge, non-adapted
 Concentration: 2 mg/l
 Result: Readily biodegradable.
 Testing period: 7 d
 Exposure time: 28 d
 Kinetic:
 7 d: 58 %
 15 d: 63 %
 21 d: 71 %
 28 d: 71 %
 Method: OECD Test Guideline 301D
 GLP: yes

Bioaccumulative potential

Components:

Ethylene glycol dibenzoate:

Partition coefficient: n-octanol/water : log Pow: 3.31 (25 °C)
 Method: Calculation method

Dibenzoyl peroxide:

Partition coefficient: n-octanol/water : log Pow: 3.2 (20 °C)
 pH: 7.02
 Method: OECD Test Guideline 117
 GLP: yes

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Mobility in soil

No data available

Other adverse effects

Product:

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

Components:

Ethylene glycol dibenzoate:

Results of PBT and vPvB assessment : Not classified as PBT or vPvB

Dibenzoyl peroxide:

Results of PBT and vPvB assessment : Not classified as PBT or vPvB

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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.
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.

14. TRANSPORT INFORMATION

International Regulations

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

UNRTDG

UN number : UN 3106
 Proper shipping name : ORGANIC PEROXIDE TYPE D, SOLID
 (Dibenzoyl peroxide)
 Class : 5.2
 Packing group : Not assigned by regulation
 Labels : 5.2

IATA-DGR

UN/ID No. : UN 3106
 Proper shipping name : Organic peroxide type D, solid
 (Dibenzoyl peroxide)
 Class : 5.2
 Packing group : Not assigned by regulation
 Labels : Organic Peroxides, Keep Away From Heat
 Packing instruction (cargo aircraft) : 570
 Packing instruction (passenger aircraft) : 570
 Environmentally hazardous : yes

IMDG-Code

UN number : UN 3106
 Proper shipping name : ORGANIC PEROXIDE TYPE D, SOLID
 (Dibenzoyl peroxide)
 Class : 5.2
 Packing group : Not assigned by regulation
 Labels : 5.2
 EmS Code : F-J, S-R
 Marine pollutant : yes

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

Not applicable for product as supplied.

National Regulations

GB 6944/12268

UN number : UN 3106
 Proper shipping name : ORGANIC PEROXIDE TYPE D, SOLID
 (Dibenzoyl peroxide)
 Class : 5.2
 Packing group : Not assigned by regulation
 Labels : 5.2

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

Special precautions for user

The transport classification(s) provided herein are for informational purposes only. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code	Chemical name / Category	Threshold quantity
W7.2	Organic peroxides	50 t

Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number	:	01-2120759933-41-0000
		01-2120759933-41-0001

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIC	:	On the inventory, or in compliance with the inventory
DSL	:	This product contains one or several components that are not on the Canadian DSL nor NDSL.
		Ethylene glycol dibenzoate
ENCS	:	On the inventory, or in compliance with the inventory

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZloC	:	On the inventory, or in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Revision Date : 2023/06/08

Further information

Other information : This data sheet contains changes from the previous version in section(s):
Handling and storage

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
CN OEL / TWA : Time weighted average
CN OEL / PC-TWA : Permissible concentration - time weighted average
CN OEL / PC-STEEL : Permissible concentration - short term exposure limit

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

PERKADOX GB-50X

Version	Revision Date:	CN / EN	Date of last issue: 2023/05/09
5.4	2023/06/08		Date of first issue: 2018/04/19

x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

The information provided in this 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.

CN / EN

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