SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

GRFlex Activator – PJGRF1125

Version 4 Revision Date 03.11.2025 Print Date 01.02.2020 GB / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : GRFlex Activator

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Specific use(s): Curing agent

1.3 Details of the supplier of the safety data sheet

Company : EcoProof Ltd
International House
Kingsfield Court
Chester Business Park
Chester, CH4 9RF

Telephone : 01948 808659

E-mail address : info@ecoproof.com

1.4 Emergency telephone number

Emergency telephone number : 01948 808659 (Office Hours 8am-9pm)
07983631893 (Out of Office Hours)
United Kingdom
999/112 emergency

111 non-emergency
NHS 24 Scotland
NHS Direct Wales
Ireland – National Poisons Information Centre

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)
Organic peroxides, D, H242
Eye irritation, 2, H319
Skin sensitisation, 1, H317
Short-term (acute) aquatic hazard, 1, H400
Long-term (chronic) aquatic hazard, 1, H410

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram :

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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P234	Keep only in original packaging.
	P261	Avoid breathing dust or fume.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	Response:	
	P370 + P378	In case of fire: Use water spray, resistant foam, dry chemical or carbon dioxide to extinguish.

Hazardous components which must be listed on the label:

Dibenzoyl peroxide 94-36-0

2.3 Other hazards

Risk of dust explosion.
No further data available.

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Pure substance/mixture : Mixture

Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Ethylene glycol dibenzoate		94-49-5 202-338-6 01-2120759933-41	Aquatic Chronic 2; H411	47 - 51
Dibenzoyl peroxide		94-36-0 202-327-6 01-2119511472-50	Org. Perox. B; H241 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute): 10 M-Factor (Chronic): 10	48 - 52

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
Status : Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
Risks	:	May cause an allergic skin reaction. Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical	:	CAUTION: reignition may occur. Supports combustion. Do not use a solid water stream as it may scatter and spread 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.
Combustion products	:	Fire will produce smoke containing hazardous combustion products (see section 10).

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Wear respiratory protection.

Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation.
Remove all sources of ignition.

Emergency measures on accidental release : Evacuate personnel to safe areas.
Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Methods for containment : Soak up with inert absorbent material and dispose of as hazardous waste.
Keep wetted with water.
Confinement must be avoided.
Pick up and arrange disposal without creating dust.
Keep in suitable, closed containers for disposal.
Never return spills in original containers for re-use.

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

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.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No smoking.
Keep in a well-ventilated place.
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.

Maximum storage temperature: : 25 °C

Other data : Do not allow to dry out.

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Dibenzoyl peroxide	94-36-0	TWA	5 mg/m3	2005-04-06	GB EH40	
	Further information	:	16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Silicon dioxide	7631-86-9	TWA	6 mg/m3	2011-12-01	GB EH40	inhalable dust

	Further information	:	15: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols 44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. 45: Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. 46: Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4. 47: Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. 16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used. Silica

		TWA	2.4 mg/m3	2011-12-01	GB EH40	Respirable dust
	Further information	:	15: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols 44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. 45: Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. 46: Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4. 47: Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. 16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used. Silica			
		TWA	5 mg/m3			respirable fraction
Dust		TWA	10 mg/m3	2011-12-01	GB EH40	Inhalable
	Further information	:	44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. 16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Dust		TWA	4 mg/m3	2011-12-01	GB EH40	Respirable
	Further information	:	44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. 16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

ACGIH: American Conference of Governmental Industrial Hygienists
AGW: Arbeitsplatzgrenzwert
BEI: Biological Exposure Index
MAC: Maximum Allowable Concentration
NIOSH: National Institute for Occupational Safety and Health
OEL: OEL: Occupational exposure limit.
STEL: Short term exposure limit
TRGS: Technische Regel für Gefahrstoffe
TWA: Time Weighted Average

Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Benzene	71-43-2	TWA	1 ppm 3.25 mg/m3	2019-01-31	2004/37/EC	
	Further information	:	Substantial contribution to the total burden via dermal exposure possible Skin: Skin Carcinogens or mutagens			
		TWA	1 ppm	2005-04-06	GB EH40	
	Further information	:	Sk: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. Carc: Capable of causing cancer and/or heritable genetic damage. 16: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Carbon dioxide	124-38-9	TWA	5,000 ppm 9,000 mg/m3	2006-02-09	2006/15/EC	
	Further information	:	Indicative			
		STEL	15,000 ppm 27,400 mg/m3	2005-04-06	GB EH40	
		TWA	5,000 ppm 9,150 mg/m3	2005-04-06	GB EH40	

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethylene glycol dibenzoate	Workers	Inhalation	Long-term systemic effects	10.6 mg/m3
	Workers	Dermal	Long-term systemic effects	3 mg/kg bw/day
Dibenzoyl peroxide	Workers	Inhalation	Long-term systemic effects	39 mg/m3
	Workers	Dermal	Long-term systemic effects	13.3 mg/kg bw/day
	Workers	Dermal	Long-term local effects	0.034 mg/cm2
	Consumers	Oral	Long-term systemic effects	1.65 mg/kg 2 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	3.84 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Ethylene glycol dibenzoate	Fresh water	0.0073 mg/l

	Marine water	0.00073 mg/l
	Fresh water sediment	2.23 mg/kg
	Marine sediment	0.223 mg/kg
	Sewage treatment plant	128 mg/l
	Soil	0.44 mg/kg
Dibenzoyl peroxide	Fresh water	0.00002 mg/l
	Marine water	0.000002 mg/l
	Sewage treatment plant	0.35 mg/l
	Fresh water sediment	0.013 mg/kg dry weight
	Soil	0.003 mg/kg dry weight
	Marine sediment	0.001 mg/kg dry weight

8.2 Exposure controls

Engineering controls
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)

Hand protection : Neoprene

Nitrile rubber

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.
Wash contaminated clothing before re-use.

Environmental exposure

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form : powder

Colour : white

Odour	: Faint.
Odour Threshold	: No data available

Safety data

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)	:
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: No data available
Bulk density	: 640 kg/m3 at 20 °C
Water solubility	: at 20 °C insoluble
Solubility in other solvents	: No data available
Partition coefficient: octanol/water	: No data available
Auto-ignition 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)	: 55 °C
Viscosity, dynamic	: No data available

Obesity Kinematics : Not applicable

Explosive properties : Not explosive

Oxidizing properties : Not classified as oxidising.

9.2 Other information

Active Oxygen Content : 3.3 %

Organic peroxides : 50 %

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

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Do not allow to dry out.
Confinement must be avoided.
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : 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.

10.6 Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information:

Acute toxicity	: Not classified based on available
Skin corrosion/irritation	: Not classified based on available
Serious eye damage/eye irritation	: Causes serious eye
Respiratory or skin sensitisation	: Respiratory sensitisation: Not classified based on available information Skin sensitisation: May cause an allergic skin
Germ cell mutagenicity	: Not classified based on available
Carcinogenicity	: Not classified based on available
Reproductive toxicity	: Not classified based on available
STOT - single exposure	: Not classified based on available
STOT - repeated exposure	: Not classified based on available
Aspiration hazard	: Not classified based on available
Further information	: No further data
	No further data

Toxicology data for the components:
Ethylene glycol dibenzoate

Acute toxicity:

Acute oral toxicity	: LD50: > 2,000 mg/kg Species: Rat Method: OECD Test Guideline 423
Skin corrosion/irritation	: Species: Rabbit Result: No skin irritation Method: OECD Test Guideline 404 Exposure time: 4 h

Serious eye damage/eye irritation	: Species: Rabbit Result: No eye irritation Method: OECD Test Guideline 405 Exposure time: 1 h
Respiratory or skin sensitisation	: Local lymph node assay (LLNA) Species: Mouse Result: Not a skin sensitizer. Method: OECD Test Guideline 429
Repeated dose toxicity	: 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
Germ cell mutagenicity	
CMR effects Mutagenicity	: Based on available data, the classification criteria are not met.
Genotoxicity in vitro	: reverse mutation assay Bacteria Result: negative Method: OECD Test Guideline 471 Chromosome aberration test in vitro Human lymphocytes Result: negative Method: OECD Test Guideline 473 In vitro gene mutation study in mammalian cells mouse lymphoma cells Result: negative
Genotoxicity in vivo	: Species: Mouse Method: OECD Test Guideline 474 Dose: 2000 mg/kg total Result: negative
CMR effects Carcinogenicity	: Based on available data, the classification criteria are not met.
CMR effectsReproductive toxicity	: Based on available data, the classification criteria are not met.
Reproductive toxicity/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: No observed adverse effect level: 300 mg/kg bw/day General Toxicity F1: No observed adverse effect level: 300

Method: OECD Test Guideline 422
GLP: yes
Result: Animal testing did not show any effects on fertility.

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

Dibenzoyl peroxide

Acute toxicity:

Acute oral toxicity: LD50: > 2,000 mg/kg
Species: Mouse
Method: OECD Test Guideline 401

LD50: > 5,000 mg/kg
Species: Rat

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: Species: Rabbit
Method: OECD Test Guideline 404
Exposure time: 4 h
Not irritating.

Serious eye damage/eye irritation: Species: Rabbit
Result: Irritation to eyes, reversing within 7 days

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

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

Germ cell mutagenicity

CMR effects Mutagenicity: Not mutagenic.

mouse lymphoma cells
Result: negative
Method: OECD Test Guideline 476

Genotoxicity in vivo : Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

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

CMR effects Carcinogenicity : Not carcinogenic.

CMR effectsReproductive toxicity : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Reproductive toxicity/Fertility : Test Type: reproductive and developmental toxicity study
Species: Rat, male and female
Application Route: Oral
General Toxicity F1: No observed adverse effect level: 500 mg/kg bw/day
Method: OECD Test Guideline 422
GLP: yes

Reproductive toxicity/Development/Teratogenicity : Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 300 mg/kg bw/day
Embryo-foetal toxicity: No observed adverse effect level: 300 mg/kg bw/day
Method: OECD Test Guideline 414
GLP: yes

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

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

Aspiration hazard : No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

Product information:
Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

12.1 Toxicity

Ecotoxicology Assessment
Ethylene glycol dibenzoate

Long-term (chronic) aquatic hazard : Toxic to aquatic life with long lasting effects.

Test result
Ethylene glycol dibenzoate

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

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

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

Toxicity to algae : ErC50: > 0.87 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Test Type: static test
Method: OECD Test Guideline 201
No toxicity at the limit of solubility

NOEC: 0.045 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to bacteria : EC50: > 1,280 mg/l
Exposure time: 3 h
Species: activated sludge
Test Type: static test
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.073 mg/l
Exposure time: 34 d
mortality
Species: Danio rerio (zebra fish)
Test Type: semi-static test
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates

Exposure time: 21 d

(Chronic toxicity)	reproduction rate Species: Daphnia magna (Water flea) Test Type: semi-static test Method: OECD Test Guideline 211 NOEC: 0.65 mg/l Exposure time: 21 d reproduction rate Species: Daphnia magna (Water flea) Test Type: semi-static test Method: OECD Test Guideline 211

Dibenzoyl peroxide

Toxicity to fish	: LC50: 0.06 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Test Type: semi-static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50: 0.11 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae	: NOEC: 0.02 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute)	10
M-Factor (Chronic)	10
Toxicity to bacteria	: EC50: 35 mg/l Exposure time: 0.5 h Species: activated sludge Test Type: Respiration inhibition Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EC10: 0.001 mg/l Exposure time: 21 d reproduction rate Species: Daphnia magna (Water flea) Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211

12.2 Persistence and degradability

Product information : No information available.

Components:
Ethylene glycol dibenzoate

Biodegradability : Test Type: Closed Bottle test
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes
Readily biodegradable.

Dibenzoyl peroxide
Biodegradability : Test Type: 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

12.3 Bioaccumulative potential

Product information : No information available.

12.4 Mobility in soil

Product information : No information available.

12.5 Results of PBT and vPvB assessment

Product information:
PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:
Ethylene glycol dibenzoate
PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Dibenzoyl peroxide
PBT and vPvB assessment : Not classified as PBT or vPvB

12.6 Other adverse effects

Product information : No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR : UN 3106
RID : UN 3106
IMDG-Code : UN 3106
IATA-DGR : UN 3106

14.2 Proper shipping name

ADR : ORGANIC PEROXIDE TYPE D, SOLID (Dibenzoyl peroxide)
RID : ORGANIC PEROXIDE TYPE D, SOLID (Dibenzoyl peroxide)
IMDG-Code : ORGANIC PEROXIDE TYPE D, SOLID (Dibenzoyl peroxide)
IATA-DGR : Organic peroxide type D, solid (Dibenzoyl peroxide)

14.3 Transport hazard class

ADR : 5.2
RID : 5.2
IMDG-Code : 5.2
IATA-DGR : 5.2

14.4 Packing group

ADR
Packing group : Not Assigned
Classification Code : P1
Labels : 5.2
Tunnel restriction code : (D)

RID
Packing group : Not Assigned
Classification Code : P1
Hazard Identification Number : 539
Labels : 5.2

IMDG-Code
Packing group : Not Assigned
Labels : 5.2
EmS Code : F-J, S-R

IATA-DGR
Packing instruction (cargo : 570

aircraft)
Packing instruction (passenger aircraft) : 570

Packing group : Not Assigned
Labels : 5.2 (HEAT)

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG-Code

Marine pollutant : yes (Dibenzoyl peroxide)

IATA-DGR

Environmentally hazardous : yes

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous

		Quantity 1	Quantity 2
P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES	50 t	200 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Notification status

TCSI : YES. On the inventory, or in compliance with the inventory
TSCA : YES. All substances listed as active on the TSCA inventory
AICS : NO. Not in compliance with the inventory
DSL : NO. This product contains one or several components that are not on the Canadian DSL nor NDSL.
ENCS : YES. On the inventory, or in compliance with the inventory
ISHL : YES. On the inventory, or in compliance with the inventory
KECI : NO. Not in compliance with the inventory
PICCS : NO. Not in compliance with the inventory
IECSC : NO. Not in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

15.2 Chemical safety assessment

Dibenzoyl peroxide : A Chemical Safety Assessment has been carried out for this

substance.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H241	:	Heating may cause a fire or explosion.
H242	:	Heating may cause a fire.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

Classification procedure:
Organic peroxides, D, H242, Based on product data or assessment
Eye irritation, 2, H319, Calculation method
Skin sensitisation, 1, H317, Calculation method
Short-term (acute) aquatic hazard, 1, H400, Calculation method
Long-term (chronic) aquatic hazard, 1, H410, Calculation method

Full text of other abbreviations

2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
2006/15/EC	:	Europe. Indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA	:	Long term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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 x% growth rate response; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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.