

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product identifier **Metroflex Powdered Catalyst**
- Trade name:
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the mixture
Reaction initiator
For industrial use
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier: CFSNET Ltd
United Downs Industrial Park
St Day, Redruth
Cornwall TR16 5HY
- Further information obtainable from: +44 (0)1209 821028
sales@cfsnet.co.uk
www.cfsnet.co.uk
- 1.4 Emergency telephone number: Tel: 0800 246 1274

* SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
 - Org. Perox. D H242 Heating may cause a fire.
 - Eye Irrit. 2 H319 Causes serious eye irritation.
 - Skin Sens. 1 H317 May cause an allergic skin reaction.
- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008
 - The product is classified and labelled according to the GB CLP regulation.
- Hazard pictograms
 
- Signal word Danger
- Hazard-determining components of labelling: dibenzoyl peroxide
- Hazard statements
 - H242 Heating may cause a fire.
 - H319 Causes serious eye irritation.
 - H317 May cause an allergic skin reaction.
- Precautionary statements
 - 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 concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
 - P234 Keep only in original packaging.
 - P264 Wash thoroughly after handling.
 - P273 Avoid release to the environment.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P410 Protect from sunlight.
 - P411+P235 Store at temperatures not exceeding +30°C. Keep cool.
 - P420 Store separately.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Additional information: Restricted to professional users.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
 - PBT: The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.
 - vPvB: The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.

Trade name: **Metroflex Powdered Catalyst**

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SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Dangerous components:

CAS: 84-61-7 EINECS: 201-545-9 Index number: 607-719-00-4 Reg-No.: 01-2119978223-34	dicyclohexyl phthalate Aquatic Chronic 3, H412	40-50%
CAS: 94-36-0 EINECS: 202-327-6 Index number: 617-008-00-0 Reg-No.: 01-2119511472-50	dibenzoyl peroxide Org. Perox. B, H241; Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); Eye Irrit. 2, H319; Skin Sens. 1, H317	40-50%

· SVHC

84-61-7 | dicyclohexyl phthalate

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:



Take care of personal protection for the first aider.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

Take affected persons into fresh air and keep quiet.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Immediately remove contaminated clothing.

· After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

If symptoms persist consult doctor.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· 5.2 Special hazards arising from the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Hydrocarbons, carbondioxide and -monoxid.

· 5.3 Advice for firefighters

Do not inhale explosion gases or combustion gases.

· Protective equipment:

Cool endangered receptacles with water spray.

· Additional information

Self-protection first!

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Keep away from ignition sources.

In case of further temperature should be cooled with waterspray from a safe distance.

Wear breathing apparatus with filter A during decomposition of materials.

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.



Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Large quantities should be diluted with suitable desensitization agent to a concentration below 10 % before disposal.

Pick up mechanically, collect in a suitable receptacle and dispose in accordance with government regulations.

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- **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
In case of large spillage the environmental authority should be informed.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Keep away from heat and direct sunlight.
Open and handle receptacle with care.
Prevent formation of dust.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Do not refill residue into storage receptacles.
Restrict the quantity stored at the work place.
Before break and at the end of work hands should be thoroughly washed.
Only use tools made of suitable materials (e. g. polyethylene or stainless steel).
Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
While using do not eat, drink or smoke.
Do not generate flames or sparks.
Keep product and emptied container away from heat and sources of ignition.
Avoid shock and friction.
Take precautionary measures against static discharges.
-  **Do not smoke.**
- **Information about fire - and explosion protection:**
 - Protect from heat.
Protect against electrostatic charges.
Prevent impact and friction.
Use explosion-proof apparatus / fittings and spark-proof tools.
Dust can combine with air to form an explosive mixture.
Substance/product is oxidising when dry.
Product is not explosive. However, formation of explosive air/dust mixtures are possible.
-  **Avoid open flames, sparks, direct sunlight and other sources of ignition.**
- **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage:** Pay attention to the special requirements of your local authorities for storing dangerous goods.
 - **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
Prevent any seepage into the ground.
Use only receptacles specifically permitted for this substance/product.
 - **Information about storage in one common storage facility:** Do not store or park organic peroxide together with heavy metal compounds and amines.
Store away from foodstuffs, drinks and feeding stuffs.
 - **Further information about storage conditions:** Keep container tightly sealed.
Protect from heat and direct sunlight.
Protect from contamination.
 - **Recommended storage temperature (To maintain quality):** max.: +30 °C
 - **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
 - **Ingredients with limit values that require monitoring at the workplace:**

84-61-7 dicyclohexyl phthalate	WEL (Great Britain) Long-term value: 5 mg/m ³
94-36-0 dibenzoyl peroxide	WEL (Great Britain) Long-term value: 5 mg/m ³

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· **DNELs**

84-61-7 dicyclohexyl phthalate

Dermal	DNEL Longterm System	0.5 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	35.2 mg/m ³ (Worker)

94-36-0 dibenzoyl peroxide

Oral	DNEL Longterm System	2 mg/kg bw/day (General population)
Dermal	DNEL Longterm System	13.3 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	39 mg/m ³ (Worker)

· **PNECs**

84-61-7 dicyclohexyl phthalate

PNEC Marinewater sed	0.106 mg/kg sed dw
PNEC Freshwater	0.004 mg/l (AF 50)
PNEC Freshwater sed	1.06 mg/kg sed dw
PNEC Soil	0.21 mg/kg soil dw
PNEC STP	10 mg/l (AF 10)
PNEC Marinewater	0 mg/l (AF 500)

94-36-0 dibenzoyl peroxide

PNEC Marinewater sed	0.001 mg/kg sed dw
PNEC Freshwater	0.00002 mg/l (AF 50)
PNEC Freshwater sed	0.013 mg/kg sed dw
PNEC STP	0.35 mg/l
PNEC Marinewater	0.000002 mg/l (AF 500)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls**

No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid close or long term contact with the skin.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Use skin protection cream for skin protection.

Be sure to clean skin thoroughly after work and before breaks.

Not necessary if room is well-ventilated.

 Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.

 Filter P2

Only use chemical-protective gloves with CE-labelling of category III.

 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

Neoprene

· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**

 Tightly sealed goggles

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· **Body protection:**



Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· General Information	
· Colour:	Whitish
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Not applicable.
· Boiling point or initial boiling point and boiling range	Not applicable.
· Flammability	May cause fire.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	+60 °C (SADT)
· pH	Not applicable.
· Viscosity:	
· Kinematic viscosity	Not applicable.
· Dynamic:	Not applicable.
· Solubility	
· water:	Undetermined.
· Partition coefficient n-octanol/water (log value)	not determined
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density	Not determined.
· Bulk density at 20 °C:	610 kg/m ³
· Vapour density	Not applicable.

· **9.2 Other information**

· Appearance:	No further relevant information available.
· Form:	Solid Powder
Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/dust mixtures are possible.
· Change in condition	
· Evaporation rate	Not applicable.

· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Heating may cause a fire.
· Corrosive to metals	Void
· Desensitised explosives	Void
· Other safety characteristics	
· Active oxygen	3.2 - 3.5 %

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SECTION 10: Stability and reactivity

· 10.1 Reactivity	No further relevant information available.
· 10.2 Chemical stability	
· Thermal decomposition / conditions to be avoided:	SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT. No decomposition if used and stored according to specifications. To avoid thermal decomposition do not overheat.
· 10.3 Possibility of hazardous reactions	Self-accelerating decomposition at SADT.
· 10.4 Conditions to avoid	No further relevant information available.
· 10.5 Incompatible materials:	Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
· 10.6 Hazardous decomposition products:	Hydrocarbons, carbondioxide and -monoxid. No hazardous decomposition products if used and stored according to specifications.
· Additional information:	Emergency procedures will vary depending on conditions. The customer should have an emergency response plane in place.

SECTION 11: Toxicological information

· 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

· Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

84-61-7 dicyclohexyl phthalate

Oral | LD50 | >2,000 mg/kg (rattus)

94-36-0 dibenzoyl peroxide

Oral | LD50 | >5,000 mg/kg (rattus)

· Skin corrosion/irritation Based on available data, the classification criteria are not met.

· Serious eye damage/irritation Causes serious eye irritation.

· Respiratory or skin sensitisation

May cause an allergic skin reaction.

· Germ cell mutagenicity Based on available data, the classification criteria are not met.

· Carcinogenicity Based on available data, the classification criteria are not met.

· Reproductive toxicity

Based on available data, the classification criteria are not met.

· STOT-single exposure

Based on available data, the classification criteria are not met.

· STOT-repeated exposure

Based on available data, the classification criteria are not met.

· Aspiration hazard

Based on available data, the classification criteria are not met.

· 11.2 Information on other hazards

· Endocrine disrupting properties

84-61-7 | dicyclohexyl phthalate

List I; II

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

94-36-0 dibenzoyl peroxide

EC50 / 72h 0.0711 mg/l (pseudokirchneriella subcapitata)

LC50 / 96h 0.0602 mg/l (oncorhynchus mykiss)

EC50 / 48h 110 mg/l (daphnia)

· 12.2 Persistence and degradability

· Degree of elimination:

· Classification:

84-61-7 dicyclohexyl phthalate

Degradation | (Readily biodegradable)

94-36-0 dibenzoyl peroxide

Degradation | (Readily biodegradable) (OECD 301 D)

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12.3 Bioaccumulative potential	
Partition coefficient: nOctanol/water: [Log Kow]	
84-61-7	dicyclohexyl phthalate
94-36-0	dibenzoyl peroxide
Bioconcentration factor (BCF)	
84-61-7	dicyclohexyl phthalate
BCF	85
12.4 Mobility in soil No further relevant information available.	
12.5 Results of PBT and vPvB assessment	
PBT:	The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.
vPvB:	The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.
12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.	
12.7 Other adverse effects No further relevant information available.	
Remark: Very toxic for fish	
Additional ecological information:	
General notes:	Also poisonous for fish and plankton in water bodies. Very toxic for aquatic organisms Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation
 After diluting with a suitable inert solid material to 10 %, the product must be supplied to a special treatment (e. g. thermal utilization) under observance of all official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Waste disposal key: Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.
Uncleaned packaging:
Recommendation: This material and its container must be disposed of as hazardous waste.

SECTION 14: Transport information

14.1 UN number or ID number	
ADR, IMDG, IATA	UN3106
14.2 UN proper shipping name	
ADR	UN3106 ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), ENVIRONMENTALLY HAZARDOUS
IMDG	ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), MARINE POLLUTANT
IATA	ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE)
14.3 Transport hazard class(es)	
ADR	 
Class	5.2 (P1) Organic peroxides.
Label	5.2
IMDG	 
Class	5.2 Organic peroxides.

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· Label	5.2
· IATA	
	
· Class	5.2 Organic peroxides.
· Label	5.2
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: DIBENZOYL PEROXIDE
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Organic peroxides.
· Hazard identification number (Kemler code):	-
· EMS Number:	F-J,S-R
· Stowage Category	D
· Stowage Code	SW1 Protected from sources of heat.
· Segregation Code	SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· Transport category	2
· Tunnel restriction code	D
· RID / GGVSEB:	like ADR
· IMDG	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity

SECTION 15: Regulatory information

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

- Regulated explosives precursors

None of the ingredients is listed.

- Regulated poisons

None of the ingredients is listed.

- Reportable explosives precursors

None of the ingredients is listed.

- Reportable poisons

None of the ingredients is listed.

- Directive 2012/18/EU

· Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

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· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

· **Please note:** Take care of the respective local regulations.

· **Substances of very high concern (SVHC) according to UK REACH**

84-61-7 dicyclohexyl phthalate

· **Substances of very high concern (SVHC) according to REACH, Article 57**

dicyclohexyl phthalate

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H241 Heating may cause a fire or explosion.

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.

H412 Harmful to aquatic life with long lasting effects.

· **Department issuing SDS:**

CFSNET Ltd Sales

· **Contact:**

Tel: +44 (0)1209 821028

E-mail: sales@cfsnet.co.uk

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Org. Perox. B: Organic peroxides – Type B

Org. Perox. D: Organic peroxides – Type C/D

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous version altered.