

Safety Data Sheet



Revision Date 4th May 2018
SDS No. 20 Version 1.3

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name MMA CATALYST

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

Recommended Use Chemical Curing Catalyst for MMA Markings / Surfacing Products

1.3 Details of the supplier of the safety data sheet

Supplier Hitex Traffic Safety Ltd
Cloister Way
Ellesmere Port
Cheshire, CH65 4EL
United Kingdom

Phone: +44 (0) 151 355 4100
Fax: +44 (0) 151 355 4100

This telephone number is available during office hours only

For further information, please contact: info@hitexinternational.com

1.4 Emergency telephone number

Emergency telephone number Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

Europe 112
Austria +43 1 406 43 43
Belgium Poison center (BE): +32 70 245 245
Denmark Poison Control Hotline (DK): +45 82 12 12 12
Finland Poison Information Centre (FI): +358 9 471 977
France ORFILA (FR): + 01 45 42 59 59
Germany Poison Center Berlin (DE): +49 030 30686 790
Poison Center Nord: +49 551 19240 (24h available English / German)
Ireland National Poisons Information Centre (IE): +353 1 8379964
Iceland +354 543 2222
Italy Poison Centre, Milan (IT): +39 02 6610 1029
Luxembourg 112
Netherlands National Poisons Information Centre (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway Poisons Information (NO): + 47 22 591300
Portugal Poison Information Centre (PT): +351 21 330 3284
Spain Poison Information Service (ES): +34 91 562 04 20
Sweden Poisons Information Center (SV): +46 8 33 12 31
Switzerland Poison Center: Tel 145; +41 44 251 51 51
United Kingdom 111

2. Hazards identification

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitisation	Category 1 - (H317)
Reproductive Toxicity	Category 1B - (H360D)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)
Organic peroxides	Type D - (H242)

2.2 Label elements



Signal Word
Danger

Hazard Statements

- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H360D – May damage the unborn child
- H410 - Very toxic to aquatic life with long lasting effects
- H242 - Heating may cause a fire

Precautionary Statements - EU (§28, 1272/2008)

- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P273 - Avoid release to the environment
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P220 - Keep away from dirt, rust, chemicals in particular
- P234 - Keep only in original container

Contains DICYCLOHEXYL PHTHALATE, DIBENZOYL PEROXIDE

2.3. Other Hazards

No information available

3. Composition/information on ingredients

3.1 Substances

This product is a mixture. Health hazard information is based on its components

3.2 Mixtures

Chemical Name	EC-No	CAS-No	Weight percent	GHS Classification	REACH Registratio
DICYCLOHEXYL PHTHALATE	201-545-9	84-61-7	25 - 50	Skin Sens. 1 (H317) Repr.1B (H360D) Aquatic Chronic 3 (H412)	01-2119978223-34-XX XX

DIBENZOYL PEROXIDE	202-327-6	94-36-0	25 - 50	Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Org. Perox. B (H241) Aquat. Acute 1 (H400) Aquat. Chron. 1 (H410)	01-2119511472-50- XX XX
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For the full text of the H-Statements mentioned in this Section, see Section 16

4. First Aid Measures

4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur. Wash contaminated clothing before reuse. Thoroughly clean shoes before re-use.
Eye contact	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Ingestion	If swallowed, call a poison control centre or doctor immediately. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	Eye irritation. May cause sensitisation by skin contact. Possible risk of impaired fertility. Causes respiratory tract irritation.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Persons with pre-existing skin, eye, or respiratory disease may be at increased risk from the irritant or allergic properties of this material. Treat symptomatically. Risk of serious damage to the lungs (by aspiration).
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5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Dry chemical, Foam, Carbon dioxide (CO₂), Sand.

Extinguishing media which shall not be used for safety reasons

Halons.

5.2 Special hazards arising from the substance or mixture

CAUTION: re-ignition may occur. Sustains combustion. Risk of dust explosion. In the event of fire and/or explosion do not breathe fumes. Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO₂). Carbon monoxide. Benzoic acid. Benzene.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Full protective flameproof clothing. Protective gloves. Evacuate personnel to safe areas. Use water spray to cool unopened containers. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. After a fire, ventilate thoroughly the area and soak with water, clean the walls and metallic surfaces. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Do not breathe dust. Avoid contact with skin and eyes. Evacuate personnel to safe areas. Avoid dust formation. Ensure adequate ventilation. Remove all sources of ignition. For personal protection see section 8.

Advice for emergency responders

For personal protection see section 8.

6.2 Environmental precautions

Prevent product from entering drains.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Keep contents moist. Confinement must be avoided. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 8 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

When using, do not eat, drink or smoke. Do not breathe dust. Use only in well-ventilated areas. Keep product and empty container away from heat and sources of ignition. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Confinement must be avoided. Do not allow to dry. Avoid contact with skin and eyes. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Prevention of fire and explosion. Avoid dust formation. Risk of dust explosion. Use only explosion-proof equipment. It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded. Never pierce, drill, grind, cut, saw or weld any empty container. Keep away from combustible material. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Hygiene measures

Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions

Store in accordance with the particular national regulations. Keep away from food, drink and animal feedingstuffs. Store in original container. Keep in a dry, cool and well-ventilated place. Keep away from direct sunlight. Store separate from other chemicals. Avoid temperatures above 25 °C. Keep away from heat and sources of ignition.

German storage class LGK 5.2

7.3 Specific end uses

Specific use(s)

No information available

Exposure scenario

No information available.

8. Exposure controls/personal protection**8.1 Control parameters****Exposure Limit Values**

Chemical Name	European Union	Austria	Belgium	Denmark	Finland	France
DICYCLOHEXYL PHTHALATE 84-61-7		TWA: 5 mg/m ³		TWA: 3 mg/m ³		
DIBENZOYL PEROXIDE 94-36-0		STEL 10 mg/m ³ TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³
Chemical Name	Germany	Iceland	Ireland	Italy	Luxembourg	The Netherlands
DICYCLOHEXYL PHTHALATE 84-61-7		TWA: 3 mg/m ³ Ceiling: 6 mg/m ³	TWA: 5 mg/m ³ STEL: 15 mg/m ³			
DIBENZOYL PEROXIDE 94-36-0	TWA: 5 mg/m ³	TWA: 5 mg/m ³ Ceiling: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 15 mg/m ³	TWA: 5 mg/m ³		
Chemical Name	Norway	Portugal	Spain	Sweden	Switzerland	The United Kingdom
DICYCLOHEXYL PHTHALATE 84-61-7						STEL: 15 mg/m ³ TWA: 5 mg/m ³
DIBENZOYL PEROXIDE 94-36-0	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³		STEL: 5 mg/m ³ TWA: 5 mg/m ³	STEL: 15 mg/m ³ TWA: 5 mg/m ³

TWA:
STEL:
LLV:
STV:

time weighted average
Short term exposure limit
Exposure Limit Values
Short Term Value

Derived No Effect Level (DNEL)

No information available

Oral

1.65 mg/kg bw/day (General population DNEL long term oral systemic) (Dibenzoyl peroxide)
0.25 mg/kg bw/day (General population DNEL long term oral systemic) (Dicyclohexyl phthalate)

Dermal

3.3 mg/kg bw/day (General population DNEL long term dermal systemic) (Dibenzoyl peroxide)
0.25 mg/kg bw/day (General population DNEL long term dermal systemic) (Dicyclohexyl phthalate)

Precautionary Statements - Inhalation

2.9 mg/m³ (General population DNEL long term inhalation systemic) (Dibenzoyl peroxide)
0.87 mg/m³ (General population DNEL inhalation acute local/systemic) (Dicyclohexyl phthalate)
0.87 mg/m³ (General population DNEL long term inhalation systemic) (Dicyclohexyl phthalate)

Derived No Effect Level (DNEL)

Workers

Dermal

6.6 mg/kg bw/day (Worker DNEL long term dermal systemic) (Dibenzoyl peroxide)
0.5 mg/kg bw/day (Worker DNEL dermal acute systemic) (Dicyclohexyl phthalate)
0.5 mg/kg bw/day (Worker DNEL long term dermal systemic) (Dicyclohexyl phthalate)

Precautionary Statements -

11.75 mg/m³ (Worker DNEL long term inhalation systemic) (Dibenzoyl peroxide)

Inhalation	35.2 mg/m ³ (Worker DNEL inhalation acute systemic (Dicyclohexyl phthalate)) 35.2 mg/m ³ (Worker DNEL long term inhalation systemic (Dicyclohexyl phthalate))
Predicted No Effect Concentration (PNEC)	No information available
Fresh Water	0.000602 mg/l (Dibenzoyl peroxide) 0.00362 mg/l (Dicyclohexyl phthalate)
Sea Water	0.0000602 mg/l (Dibenzoyl peroxide) 0.000362 mg/l (Dicyclohexyl phthalate)
Fresh water sediment	0.338 mg/kg (Dibenzoyl peroxide) 1.06 mg/kg (Dicyclohexyl phthalate)
Sea sediment	0.106 mg/kg (Dicyclohexyl phthalate)
Soil	0.0758 mg/kg (Dibenzoyl peroxide) 0.21 mg/kg (Dicyclohexyl phthalate)
Impact on Sewage Treatment	0.35 mg/l (Dibenzoyl peroxide) 10 mg/l (dicyclohexyl phthalate)

8.2 Exposure controls

Engineering Measures	Ensure adequate ventilation. Use only in an area equipped with explosion proof exhaust ventilation.
Personal protective equipment	
Eye/Face Protection	Tightly fitting safety goggles.
Hand Protection	Rubber gloves. Butyl rubber. Neoprene gloves.
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	Ensure adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment. Half mask with a particle filter P2 (EN 143).
Hygiene measures	Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Prevent product from entering drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Colour	White
Odour	Mild
Odour Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No information available
Melting/freezing point		Decomposition
Boiling point/boiling range	Not applicable	No information available
Flash Point	Not applicable	No information available
Evaporation rate	Not Applicable	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air upper flammability limit		No information available
lower flammability limit		No information available
Vapour pressure		No information available
Vapour density		No information available
Specific Gravity	1.23 (20 °C)	
Water solubility	Insoluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidising Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content No information available

Density	1230 kg/m ³ (20 °C)
Bulk Density	640 kg/m ³ (20 °C)
Active oxygen content	3.3 %
Peroxide content	50 %
SADT	55 °C

10. Stability and Reactivity

10.1 Reactivity

Hazardous polymerisation does not occur. Decomposes on heating.

10.2 Chemical stability

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 following temperature: 55°C. Contact with incompatible substances can cause decomposition at or below the SADT 55°C Stable under normal conditions

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to Avoid

Heat, flames and sparks. Confinement must be avoided. Avoid temperatures above 25 °C. Avoid shock and friction. Do not allow to dry. Explosive when dry.

10.5 Incompatible Materials

Rust, Iron, Copper, Acids and bases, Heavy metal compounds, Reducing agents, Reacts violently in contact with acids, amines, driers, polymerisation accelerators and easily oxidized materials

10.6 Hazardous Decomposition Products

Benzoic acid. Benzene.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product Information

Inhalation	Thermal decomposition can lead to release of irritating gases and vapours. Irritating to respiratory system.
Eye contact	Serious eye damage/eye irritation.
Skin contact	slight irritation. May cause an allergic skin reaction. May cause skin irritation.
Ingestion	Ingestion may cause irritation to mucous membranes.

The following values are calculated based on chapter 3.1 of the GHS document mg/l

Unknown Acute Toxicity

- < 1 % of the mixture consists of ingredient(s) of unknown toxicity
- < 1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- < 1 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- < 1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- < 1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- < 1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
DIBENZOYL PEROXIDE	> 5000 mg/kg (rat)		> 24.3 mg/l (Rat,dust)

Skin corrosion/irritation	May cause irritation.
Eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitisation	May cause sensitisation by skin contact.
Germ Cell Mutagenicity	None known.
Carcinogenicity	No information available.
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	No information available.
Specific target organ toxicity - repeated exposure	No information available.
Target Organs	Eyes. Respiratory system. Skin.
Aspiration hazard	No information available.

12. Ecological information

12.1 Toxicity

< 1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

May cause long-term adverse effects in the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
DIBENZOYL PEROXIDE	EC50 (72h) : 0.06 mg/l (Dibenzoyl peroxide 78 %)	LC50 (96h) : 0.06 mg/l (Dibenzoyl peroxide 78 %)	EC50 (48h) : 0.11 mg/l (Dibenzoyl peroxide 78 %) - Daphnia magna

12.2 Persistence and degradability

Readily biodegradable.

12.3 Bioaccumulative potential

Bioconcentration factor (BCF). = 85. estimated.

12.4 Mobility in soil

Mobility in soil

No information available.

Mobility

log Pow = 4.82 (25 °C)

log Koc = 3.46 (estimated).

12.5 Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects.

Discharge into the environment must be avoided.

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
DICYCLOHEXYL PHTHALATE	Group III Chemical		

13. Disposal Considerations

13.1 Waste treatment methods

Waste from residues / unused products	Waste from residues / unused products.
Contaminated packaging	Dispose of in accordance with local regulations. Do not burn, or use a cutting torch on, the empty drum.
Other information	European Waste Catalogue. 160903 - peroxides, e.g. hydrogen peroxide. 160903 [S].

14. Transport Information

ADR

14.1 UN	3106
14.2 Proper shipping name	Organic Peroxide Type D, solid (Dibenzoylperoxide)
14.3 Hazard class	5.2
ADR/RID-Labels	5.2
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None
Classification Code	P1
Tunnel restriction code	D
Hazard identification No	539

IMDG

14.1 UN	3106
14.2 Proper shipping name	Organic Peroxide Type D, solid (Dibenzoylperoxide)
14.3 Hazard class	5.2
14.4 Packing Group	Not regulated
14.5 Marine pollutant	Yes
14.6 Special Provisions	None
EmS	F-J, S-R
14.7 Transport in bulk according to MARPOL 73/78 and the IBC Code	No information available

IATA

14.1 UN	3106
14.2 Proper shipping name	Organic Peroxide Type D, solid (Dibenzoylperoxide)
14.3 Hazard class	5.2
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

15. Regulatory information

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

National regulatory information

Germany WGK Classification	WGK = 1 (self classification)
Denmark - MAL Factor	Not applicable

