

Material Safety Data Sheet

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METOX-50W

Date of update: March 03, 2017

Version: 3.1/EN

Section 1: Identification of the substance/mixture and of the company

1.1 Product identifier

Trade name: **METOX-50W**

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

Relevant identified uses: Manufacturing of the substance; Formulation of preparations; Industrial use of reactive processing aids; Industrial use of chemicals for polymer processing.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Oxytop Sp. z o.o.**Antoninek 2****62-060 Stęszew, Poland**

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www.oxytop.pl

e-mail: dokumentacja@oxytop.pl

1.4 Emergency telephone number

112 (emergency telephone number)

+48 61 898 53 00, -01 (from Monday to Friday 8.00 – 16.00)

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Org. Perox. D H242, Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Dam. 1 H318

Heating may cause a fire. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2 Label elements

Signal words: **DANGER**

Hazard pictograms:

Hazard statements

H242 Heating may cause a fire.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

Precautionary statements

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Mixture does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH. WARNING! Due to the explosive properties of the substance, do not remove the stabilizer from the substance - explosion hazard.

Section 3: Composition/information on ingredients

3.2 Mixture

Component name	Identifier	Classification [CLP]	Concentration [%] weight
reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane [MEKP], solution 35%; 2-butanone peroxide	ECHA number: 700-954-4 Registration number: 01-2119514691-43-0004	Org. Perox. D H242 Acute Tox. 4 H302 Acute Tox. 4 H332 Skin Corr. 1B H314 Eye Dam. 1 H318	88 - 93
dimethyl phthalate	CAS number: 131-11-3 EC number: 205-011-6 Registration number: 01-2119437229-36-xxxx	no classification	12 - 7

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: Take off contaminated clothing. Wash the contaminated skin thoroughly with plenty of water. Do not use solvents and solutions. Wear sterile dressing. Immediately consult with a doctor.

Eye contact: Wash the contaminated eye with plenty of water for 10-15 minutes. Protect the non-irritated eye, remove contact lenses. Avoid powerful water stream – risk of cornea damage. Wear sterile dressing. Immediately consult with a doctor.

Ingestion: Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a doctor immediately, show the container or label.

Inhalation: Move the victim to fresh air. Keep victim warm and calm. Consult a doctor if disturbing symptoms appear.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact: may cause irritation, redness, pain, vision difficulties, corneal damage, serious eye damage.

Skin contact: may cause irritation, redness, severe skin burns.

Ingestion: ulcers, burns, risk of perforation of the upper digestive tract can occur.

Inhalation: headaches and dizziness, respiratory tract irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Symptomatic treatment.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: foam, dry chemicals, carbon dioxide, water spray, sand.

Unsuitable extinguishing media: halons, water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

Heating may cause a fire. The product burns very rapidly. There is a risk of re-ignition. Product vapors may form dangerous explosive mixtures with air. As a result of thermal decomposition, combustible materials may be created: ethane, methane, ethylene, and highly reactive free radicals. During the fire, the product may produce harmful fumes of carbon

oxides and other unidentified products of pyrolysis. Do not inhale combustion products, they can be dangerous for human health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals. Cool the endangered containers with water spray from a safe distance (ca. 15 m) and remove them from the danger zone if it is safe and possible to do. Collect used extinguishing agents.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Ensure that only the trained personnel removes the effects of the accident. In case of large spills, isolate the exposed area. Avoid skin and eyes contamination. Ensure adequate ventilation. Do not inhale vapours. Remove all ignition sources. Do not smoke. Do not use sparking tools.

6.2 Environmental precautions

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Place the damaged container in emergency container. Collect with liquid absorbing materials (e.g. soil, sand). In case of a large leakage, pump it out. Place it in labeled containers for waste. Waste should be kept wet. Do not close the containers. Clean the contaminated place and ventilate it.

6.4 Reference to other sections

Appropriate conduct with waste product – section 13. Personal protective equipment – see section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Do not eat, drink or smoke when using the product. Before break and after work wash hands. Avoid contact with skin and eyes. Use personal protection equipment. Ensure adequate ventilation of area, where the product is used. Do not inhale vapours and spray. Remove all ignition sources – do not use open flame, do not smoke, do not use sparking tools and clothing made with fibers susceptible to static electrification. Protect tanks from heat, install explosion-proof electrical equipment, tanks should be bridged and grounded. In the workplace, use only the amount of the product that is absolutely necessary for the job. Keep the unused containers tightly closed. Never mix peroxides directly with accelerators (risk of explosion) – add each component separately to the resin. Do not re-use empty containers.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original containers in dry, cool and well-ventilated area in the warehouse or any part of thereof that is designed for storing peroxides and that corresponds to regulations in force in the field of security and fire protection - fireproof storage, explosion-proof electrical installation and ventilation, the floor with electro-conductive flooring. Metal devices and storage equipment, containers, packaging, etc. on which the electrical charges can be accumulated, should be grounded. Keep away from heat and ignition sources. Avoid direct sunlight. Do not smoke. Protect the containers from contamination. Never pour back the substance into the original container from which it was taken (risk of decomposition). Keep away from incompatible materials (see section 10), foodstuffs and animal feed. Temperature recommended for storage: <25°C (to maintain the technical characteristics of the substance). Use package made of stainless steel, polyethylene (HDPE), Teflon (PTFE). Do not store in containers made of: metals (including steel), copper, rubber (natural or synthetic), stoneware.

7.3 Specific end use(s)

No information about other applications than those listed in subsection 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Please check any national occupational exposure limit values in your country.
Legal basis: Commission Directives 2006/15/EC, 2000/39/EC, 2009/161/EC .

reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane [MEKP], solution 35%:

Does not contain any components with occupational exposure limit values at working place.

DNEL values for workers:

Type of effect	Route	DNEL
Acute – systematic effects	Inhalation	15,864 mg/m ³
Long-term – systematic effects	Inhalation	5,288 mg/m ³
Long-term – systematic effects	Dermal	3 mg/kg bw

DNEL values for general population:

Type of effect	Route	DNEL
Long-term – systematic effects	Inhalation	1,125 mg/m ³
Long-term – systematic effects	Dermal	1,5 mg/kg bw
Long-term – systematic effects	Oral	0,75 mg/kg bw

PNEC values:

PNEC	Value	Assesment factor
Fresh water	0,0056 mg/l	1000
Marine water	0,00056 mg/l	10000
Water (intermittent release)	0,056 mg/l	100
Sediment (fresh water)	0,0876 mg/kg	-
Sediment (marine water)	0,00876 mg/kg	-
Soil	0,0142 mg/kg	-
STP	1,2 mg/l	10

dimethyl phthalate (CAS: 131-11-3):

NDS 5 mg/m³

NDSch 10 mg/m³

PNEC

Fresh water: 0,192 mg/l

Marine water: 0,0192 mg/l

Intermittent release): 0,39 mg/l

Sediment (fresh water): 1,403 mg/kg

Soil: 3,16 mg/kg

DNEL

worker:

Long-term – systematic effects, dermal: 100 mg/kg

worker:

Long-term – systematic effects, inhalation: 293,86 mg/m³

user / consumer:

Long-term – systematic effects, dermal: 60 mg/kg

user / consumer:

Long-term – systematic effects, inhalation: 86,96 mg/m³

user / consumer:

Long-term – systematic effects, oral: 25 mg/kg

8.2 Exposure controls

Use the product in accordance with good occupational hygiene and safety practices. Do not eat, drink or smoke when using the product. Before break and after work wash hands carefully. Avoid contact with skin and eyes. Do not inhale vapours. Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke. If, during the work process there is a danger of spilling corrosive liquids on workers or a risk of inflammation of their garments – safety showers (to wash a whole body) and separate eyewash stations should be installed no further than 20 meters in horizontal line from the posts on which the processes are carried out. Ventilation and electrical installation should be explosion-proof. General ventilation and / or local exhaust is recommended in order to maintain the concentration of vapors below dangerous values. Local exhaust is recommended, because it enables to control the emissions at source and prevents from spreading to the whole working area.

Hand protection

Wear protective gloves, resistant to the product. Material recommended for gloves: PCV, neoprene. In case of a short contact, use protective gloves with effectiveness level ≥ 2 (breakthrough time > 30 min.). In case of a prolonged contact, use protective gloves with effectiveness level = 6 (breakthrough time > 480 min.).

The material that the gloves are made of must be impenetrable and resistant to the product's effects. The selection of material must be performed with consideration of breakthrough time, penetration speed and degradation. Moreover, the selection of proper gloves depends not only on the material, but also on other quality features and changes depending on the manufacturer. The producer should provide detailed information regarding the exact breakthrough time. This information should be followed.

Body protection

Wear protective clothing type 3, 4 or 6 to protect against liquid chemicals (selection should be made taking into account the way of exposure to chemical agent):

- protective clothing against liquid jet - type 3;
- protective clothing against liquid spray - type 4;
- clothing that protects against liquid splashes - type 6.

Eyes protection

Use tightly fitting protective glasses if there is a risk of eye contamination.

Respiratory protection

In case of the formation of vapours and aerosols, use absorbing equipment or absorbing and filtering equipment with a suitable protection class (class 1/protection against gases or vapours with a concentration in the air volume not exceeding 0.1%, class 2 / protection against gases or vapours with a concentration in the air not exceeding 0.5%, class 3 / protect against gases or vapours at concentrations in the air volume to 1%). In cases where the oxygen concentration is $\leq 17\%$ and / or maximum concentration of toxic substances in the air is $\geq 1.0\%$ by volume, isolating equipment should be used.

Applied personal protective equipment must comply with the requirements of the Directive 89/686/EC. The employer is obliged to provide protective equipment relevant to performed activities and in accordance with all quality requirements, including its maintenance and cleaning.

Environmental exposure controls

Do not allow large quantities of the product to contaminate ground water, canalization, sewages or soil.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state: liquid

colour: colorless

odour: characteristic

odour threshold: not determined

pH (20°C): 3,5-5,0

melting point/freezing point: not determined
initial boiling point and boiling range: not determined
flash point: not display
evaporation rate: not determined
flammability (solid, gas): not applicable
upper/lower flammability or explosive limits: not determined
vapour pressure: not determined
vapour density: not determined
density (20°C): 1,170 - 1,176 g/cm³
solubility(ies): insoluble in water
partition coefficient: not determined
auto-ignition temperature: not determined
decomposition temperature: not determined for the mixture
explosive properties: not display
oxidising properties: not display
dynamic viscosity: not determined

9.2 Other information

None.

Section 10: Stability and reactivity

10.1 Reactivity

Reactive product. See also subsection 10.4-10.5.

10.2 Chemical stability

The product is stable under normal conditions of use and storage (appropriate stabilizers).

10.3 Possibility of hazardous reactions

None.

10.4 Conditions to avoid

Avoid heat sources, temperature >25°C, direct exposure to sunlight and flame sources – risk of exothermic decomposition.

10.5 Incompatible materials

Keep away from strong oxidizers, strong acids and basis, sulphur compounds, salts of transition metals, rust, dust (risk of self-accelerating exothermic decomposition), accelerators (amines, metal salts), acetone.

10.6 Hazardous decomposition products

MEKP undergoes a rapid hydrolytic degradation and form acetic acid, ethyl acetate, methyl ethyl ketone.

Section 11: Toxicological information

11.1 Information on toxicological effects

a) Acute toxicity

Calculated data:

METOX-50W (oral) = about 1170 mg/kg

METOX-50W (inhalation) = about 19 mg/l

reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane [MEKP], solution 35%:

LD50 (rat, oral) 1 017 mg/kg (method: OECD 401)

LD50 (rabbit, dermal) 4 000 mg/kg (method: OECD 402)

LC50 (rat, inhalation) 200 ppm/4h

LC50 (rat, inhalation) 17000 mg/m³ (method: OECD 403)

Harmful if swallowed. Harmful if inhaled.

dimethyl phthalate (CAS: 131-11-3):

Experimental / calculated data:

LD50 (rat, oral): 8.200 mg/kg

Data from the literature.

Rat (inhalation): > 10,4 mg/l 6 h (IRT)

In animal studies, there was no mortality during exposure.

Data from the literature. Vapours were tested.

LD50 rabbit (dermal): > 12.000 mg/kg

Data from the literature.

b) Skin corrosion/irritation

Mixture is corrosive to the skin.

c) Serious eye damage/irritation

Mixture is corrosive to the eyes - causes serious eye damage.

d) Respiratory or skin sensitisation

Mixture is not sensitizing.

e) Germ cell mutagenicity

The mixture is not classified as mutagenic.

f) Carcinogenicity

Mixture is not carcinogen.

In accordance with column 2 of REACH Annex X, a carcinogenicity study (required in section 8.9.1) does not need to be conducted as methyl-ethylketone peroxide did not reveal indication for mutagenic/genotoxic effects in a complete battery set in vitro and in some in vivo mutagenicity tests. In addition, there is no evidence from the repeated dose studies that the substance can induce hyperplasia and /or pre-neoplastic lesions.

g) Reproductive toxicity

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

h) STOT-single exposure

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

i) STOT-repeated exposure

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

j) Aspiration hazard

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

Section 12: Ecological information

12.1 Toxicity

Mixture is not classified as dangerous for environment.

reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane [MEKP], solution 35%:

Toxicity for fish

LC50 44,2 mg/l/72h/Poecilia reticulata (method: OECD 201 and C1 according to reg. 440/2008/CE as amended)

Toxicity for invertebrates

LC50 39 mg/l/42h/Daphnia magna (method: OECD 202 and C2 according to reg. 440/2008/CE as amended)

Toxicity for algae

LC50 3,2 mg/l/72h/Pseudokirchnerella subcapitata, biomass (method: OECD 203 and C3 according to reg. 440/2008/CE as amended)

Toxicity for algae

LC50 5,6 mg/l/72h/Pseudokirchnerella subcapitata, growth rate (method: OECD 203 and C3 according to reg.440/2008/CE as amended).

12.2 Persistence and degradability

Mixture is readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation is not expected. Determination of bioaccumulation for MEKP in aquatic species was scientifically unjustified and therefore was not required in accordance with section 9.3.2, column 2 of Annex IX of REACH regulation. The coefficients of bioaccumulation (BCF) of MEKP were calculated at 10,3 l/kg or log BCF 1,013 with program EPIWIN. Due to its low coefficient of bioaccumulation, MEKP has been recognized as a substance without the accumulation potential, and the direct and indirect exposure of the aquatic environment is highly unlikely. The log Pow MEKP estimated is as <2,04. In addition, the representative BCF decomposition products of MEKP showed no tendency to bioaccumulate.

12.4 Mobility in soil

Mixture is not mobile in the soil.

MEKP has a low partition coefficient n-octanol/water logPow and partition coefficient water / soil log Koc.

12.5 Results of PBT and vPvB assessment

Mixture does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

12.6 Other adverse effects

Mixture has no influence on global warming and destruction of the ozone layer.

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: disposal in accordance with the local legislation. Waste code should be given in the place of waste formation. Classify as dangerous waste.

Disposal methods for used packing: eliminate empty containers in accordance with the legislation in force.

Legal basis: Directive 2008/98/EC, 94/62/EC.

Section 14: Transport information

14.1 UN number

UN 3105

14.2 UN proper shipping name

ORGANIC PEROXIDE TYPE D, LIQUID

14.3 Transport hazard class(es)

5.2



14.4 Packing group

Not applicable.

14.5 Environmental hazards

Mixture is not classified as dangerous for environment according to transport regulations.

14.6 Special precautions for user

Avoid heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Section 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No

1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.

Commission Regulation (EU) No 2015/80 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

15.2 Chemical safety assessment

A Chemical Safety Assessment wasn't performed.

Section 16: Other information

Clarification of abbreviations and acronyms

Org. Perox. D Organic peroxide type D
Acute Tox. 4 Acute toxicity, cat. 4
Skin Corr. 1B Skin Corrosion, cat. 1B
Eye Dam. 1 Eye damage, cat 1
PBT Persistent, Bioaccumulative and Toxic substance
vPvB very Persistent, very Bioaccumulative substance

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

People associated with transport of hazardous materials in accordance with ADR should be adequately trained for their job responsibilities (general training, bench and safety).

Key literature references and data sources

Safety data sheet was drawn up on the basis provided by the distributor sheet, literature, online databases (e.g. ECHA, TOXNET, Cosing) as well as knowledge and experience, taking into account the current legislation.

Other data

Modifications: section 2

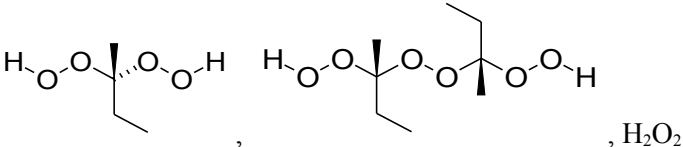
This Safety Data Sheet cancels and updates all its previous versions.

The information contained herein is based on our current knowledge. The above information is believed to be correct, but may not be sufficient and should be treated only as an aid to safety in transport, distribution, use and storage of the product. The safety data sheet does not relieve you of the knowledge of the rules on the use of the product. The recipient is responsible for safeguards staff and surroundings at the time of use of the mixture. This product should be stored, transported and used in accordance with good industrial hygiene practices and in compliance with all laws.

Metox-50W/Metox-50WR*

Metox-50W/Metox-50WR is a peroxide initiator used for copolymerization of unsaturated polyester resins. It is mainly applied in the presence of cobalt accelerators at ambient temperature. It can be used in hand lay-up and spray lay-up. Because of small amount of water it is recommended as a hardener for gel coats, polymeric concretes and unfilled varnishes. In comparison with Metox-50 it presents slightly longer gel time.

Physico-chemical data

Product description	Methyl ethyl ketone peroxides in dimethyl phthalate.
Chemical formula	
Appearance	Clear, colorless or red* solution.
Peroxides	30 ÷ 35%.
Solvent	60 ÷ 65% - dimethyl phthalate.
Water	Approximately 2.0%.
Density	1.170 ÷ 1.176 g/cm ³
Active oxygen	8.5 ÷ 8.9%.
Solubility	Phthalates and other organic solvents.
SADT	60°C.
Flame point	71°C.
The main danger	Oxidizing agent, decomposes violently under the influence of heat, mechanical impurities, or by contact with reducing agents. Never mix hardener with accelerator.
Major decomposition products	Flammable gases.
Toxicological data	LD50 > 1g/kg. Biodegradable when diluted.

Safety recommendations and first aid

Personal precautions	Sufficient ventilation, safety goggles and gloves.
Safety recommendations	Use only clean tools and equipment made of stainless steel, polyethylene, polypropylene or glass. All equipment should be grounded. Avoid contact with rust.
Storage conditions	Each container has to be tightly closed. The containers should be stored in a well-ventilated room at maximum temperature +25°C. Do not store with reducing agents: amines, acids, alkalis, heavy metal compounds (accelerators, soaps, drying agents). Never store with cobalt accelerator. Do not weight out in a storage room.
Stability	Twelve months under recommended storage conditions.

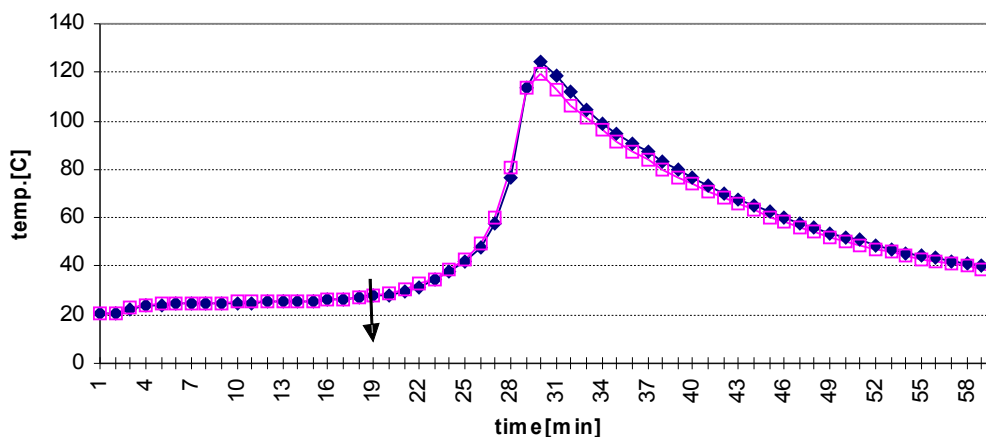


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Firefighting hazards	Extinguish fire with powder or carbon dioxide and finally with water.
Environmental contamination	Rinse contaminated place with sand and water, sponge up spilled inert material into the container and destroy small amount of waste according to local regulations.
Contamination of personal clothing and skin contact	Remove contaminated clothes, rinse the skin with plenty of water. Seek medical advice. Wash the clothing.
Eye contact	Rinse with water, apply 10% solution of sodium bicarbonate and once again rinse with water. Seek medical advice.
Ingestion	Rinse mouth, drink plenty of water. Seek medical advice.
Waste disposal	Wastes can be incinerated or chemically destroyed. Burn in a controlled manner and in accordance with local regulations. Neutralize with 10% solution of sodium hydroxide during continuous mixing.

Profile of copolymerization has been determined for polyester resin Polimal-109-39 (30g) in the following system:
Cobalt accelerator OC-1BL (1,0phr *)- Metox-50W (□, 2phr) and foreign hardener (◆, 2phr).



*/ 1phr = 1 part per 100 parts of resin.

All product information and suggestions herein are provided in good faith and in a reliable manner. Oxytop does not guarantee as to the completeness of the information contained herein for purpose or fitness for a particular purpose. Oxytop does not guarantee that all possible use does not infringe any patent. The purchaser should determine the suitability of the product for a particular purpose, by preliminary tests.

This document supersedes all previously issued data sheets (TDS) for a specific product. It is allowed to transmit, distribute, copy this document only in its original form, with headers and footers. It is not allowed to place the document on the website.

Date of issue: 21 of October 1997

Date of revision: 20 of July 2013



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

SDS n° : FP11268

POLYCOR ISO BR

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Former date 30-Nov-2016

Revision date 08-Sep-2017

Version: 1.3

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

1.1. Product identifier

Product name	POLYCOR ISO BR
Chemical Name	Gel Coat unsaturated polyester for composites
Trade name	POLYCOR ISO BR;POLYCOR QCC ISO BR 0400;POLYCOR QCC ISO BR LV 0400;POLYCOR ISO BR LV;POLYCOR ISO BR LV2;POLYCOR ISO BR HV;POLYCOR ISO PTY;POLYCOR ISO BR FC;POLYCOR ISO BR IHB;POLYCOR ISO BR AD;POLYCOR TOPCOAT ISO BR;POLYCOR TOPCOAT QCC ISO BR LV 0400;POLYCOR ISO BR FC AD;POLYCOR TOPCOAT ISO BR FC;POLYCOR TOPCOAT ISO BR HAR;POLYCOR TOPCOAT ISO BR LV;POLYCOR ISO BR LV AD;POLYCOR ISO BR LV FC;POLYCOR TOPCOAT ISO BR HV;POLYCOR ISO BR LV IHB;POLYCOR TOPCOAT ISO BR LV IHB;POLYCOR TOPCOAT ISO BR IHB;POLYCOR TOPCOAT ISO BR LV FC;POLYCOR TOPCOAT ISO BR LV2;POLYCOR ISO BR LV3;POLYCOR TOPCOAT BR LV2;POLYCOR TOPCOAT BR LV3;POLYCOR TOPCOAT ISO 9116 TM BR HAR;POLYCOR TOPCOAT ISO 9132 TM BR HAR
Pure substance/mixture	Mixture

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

Identified uses	To form a protective and decorative layer for GRP composites. Contact us before using for food contact application.
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1.3. Details of the supplier of the safety data sheet

Supplier	Polynt Composites France S.A. Route d'Arras CS 50019 62320 Drocourt France Tel : +33 3 21 74 84 00 Fax : +33 3 21 49 55 84
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Manufacturer

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 Laporte Road
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 North East Lincolnshire DN41 8DR
 Tel : (+44) 1469 552 570
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For further information, please contact

E-mail address Rccp.SDSmanagement@polynt.com
Internet Address <http://www.polynt.com>

1.4. Emergency telephone number

This telephone number is available 24 hours per day, 7 days per week.	
Europe, America, Middle East, Africa (European language countries) :	+44 (0) 1235 239 670
Middle East/Africa (Arabic speaking countries) :	+44 (0) 1235 239 671
Asia Pacific :	+65 3158 1074

Poison Information Centre telephone number

European emergency phone number : 112
 UK : National Poisons Emergency Number : 0845 4647
 Ireland : National Poisons Information Centre (NPIC) Telephone Healthcare Professionals : +353 (01) 809 2566. (24 hour service) Telephone Members of Public : +353 (01) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

SECTION 2: Hazards identification2.1. Classification of the substance or mixtureClassification of the substance or mixture - GHS/CLP (n° 1272/2008)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Reproductive Toxicity	Category 2
Specific Target Organ Toxicity (Single Exposure)	Category 3
Specific target organ toxicity - repeated exposure	Category 1
Chronic Aquatic Toxicity	Category 3
Flammable liquids	Category 3

2.2. Label elements

Contains Styrene

**Signal word****Danger****Hazard statements**

H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H361d - Suspected of damaging the unborn child
 H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
 H412 - Harmful to aquatic life with long lasting effects
 H226 - Flammable liquid and vapour

Physical hazards

EU H -Phrases

EUH208 Contains cobalt octoate - May produce an allergic reaction.

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 P243 - Take precautionary measures against static discharge
 P260 - Do not breathe vapour
 P273 - Avoid release to the environment
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight percent	GHS Classification
Styrene	202-851-5	01-2119457861-32	100-42-5	~ 39	Flam. Liq. 3 (H226) Repr. 2 (H361d) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Asp. Tox. 1 (H304) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Chronic 3 (H412)
Titanium dioxide	236-675-5	01-2119489379-17	13463-67-7	~ 17	-
glass, oxide, chemicals	266-046-0	No data available	65997-17-3	~ 10	-
Talc	238-877-9	No data available	14807-96-6	~ 8	-
Barium sulfate	231-784-4	01-2119491274-35	7727-43-7	~ 4	-

Silica, amorphous, fumed, crystalline-free	231-545-4	01-2119379499-16	112945-52-5	~ 3	-
Naphtha (petroleum), hydrodesulfurized heavy	265-185-4	01-2119490979-12	64742-82-1	~ 0.5	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)
(2-methoxymethylethoxy)propanol	252-104-2	01-2119450011-60	34590-94-8	~ 0.3	Acute Tox. 4 (H332)
Potassium 2-ethylhexanoate	221-625-7	01-2119980714-29	3164-85-0	~ 0.1	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Repr. 2 (H361)
cobalt octoate	205-250-6	01-2119524678-29	136-52-7	< 0.25	Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Repr. 2 (H361f) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance Do not breathe dust/fume/gas/mist/vapours/spray
Eye Contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If symptoms persist, call a physician
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes If skin irritation persists, call a physician
Inhalation	Move to fresh air If not breathing, give artificial respiration Consult a physician
Ingestion	Do NOT induce vomiting Rinse mouth. Consult a physician
Protection of first-aiders	Use personal protective equipment See section 8 for more information

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

Eye Contact	Irritating to eyes
Skin contact	Irritating to skin May produce an allergic reaction.
Inhalation	Harmful: danger of serious damage to health by prolonged exposure through inhalation Irritating to respiratory system
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

Notes to physician No information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical, Foam, Carbon dioxide (CO₂), (closed systems)

Extinguishing Media Which Must not be Used for Safety Reasons Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases Vapours may form explosive mixtures with air. Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) Heating or fire can release toxic gas : Carbon monoxide

5.3. Advice for firefighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.

Other information Cool containers / tanks with water spray.
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

For non-emergency personnel

Personal precautions

Remove all sources of ignition
Heat, flames and sparks.
Take precautionary measures against static charges.
Ensure adequate ventilation
Use personal protective equipment

For emergency responders

Avoid breathing vapours or mists In the event of fire and/or explosion do not breathe fumes. Use personal protective equipment

6.2. Environmental precautions

Environmental precautions The product should not be allowed to enter drains, water courses or the soil.
Do not flush into surface water or sanitary sewer system

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13)
Use clean non-sparking tools to collect absorbed material

6.4. Reference to other sections

See section 8 for more information
See Section 12 for additional Ecological Information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Avoid static electricity build up with connection to earth Use only in area provided with appropriate exhaust ventilation In case of insufficient ventilation, wear suitable respiratory equipment For personal protection see section 8
Prevention of fire and explosion	Keep away from open flames, hot surfaces and sources of ignition Do not use compressed air for filling, discharging or handling. Empty containers may contain flammable or explosive vapours
Hygiene measures	When using, do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep in a dry, cool and well-ventilated place. Keep at temperature not exceeding 30°C Keep away from heat and sources of ignition.
Materials to avoid	Strong oxidizing agents, Catalyst, Peroxides, Reducing agents
Packaging material	metallic GRP Tanks (Reinforced Glass Polyester)
Unsuitable materials for containers	copper, Copper alloys, Bronze, Zinc

7.3. Specific end use(s)

Specific use(s)	No information available
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SECTION 8: Exposure controls/personal protection8.1. Control parametersOccupational Exposure limits

Chemical Name	European Union	ACGIH OEL (Ceiling)	The United Kingdom	Ireland
Styrene 100-42-5	-	TLV-8h TWA: 20 ppm - 85 mg/m ³ TLV-15min STEL: 40 ppm - 170 mg/m ³	STEL 250 ppm STEL 1080 mg/m ³ TWA 100 ppm TWA 430 mg/m ³	TWA 20 ppm TWA 85 mg/m ³ STEL 40 ppm STEL 170 mg/m ³
Titanium dioxide 13463-67-7		TWA 10 mg/m ³	STEL 30 mg/m ³ STEL 12 mg/m ³ TWA 10 mg/m ³ TWA 4 mg/m ³	TWA 10 mg/m ³ TWA 4 mg/m ³
Talc 14807-96-6		TWA 2 mg/m ³	STEL 3 mg/m ³ TWA 1 mg/m ³	TWA 10 mg/m ³ TWA 0.8 mg/m ³
Barium sulfate 7727-43-7	TWA 0.5 mg/m ³	TWA 10 mg/m ³	STEL 30 mg/m ³ STEL 12 mg/m ³ STEL 1.5 mg/m ³ TWA 10 mg/m ³ TWA 4 mg/m ³ TWA 0.5 mg/m ³	TWA 2 mg/m ³ TWA 0.5 mg/m ³
(2-methoxymethylethoxy)propanol 34590-94-8	TWA 50 ppm TWA 308 mg/m ³ S*	TWA 100 ppm	STEL 150 ppm STEL 924 mg/m ³ TWA 50 ppm TWA 308 mg/m ³ Skin	TWA 50 ppm TWA 308 mg/m ³ Skin
cobalt octoate 136-52-7		0.02 mg/m ³	STEL 0.3 mg/m ³ TWA 0.1 mg/m ³ Sen+	TWA 0.1 mg/m ³ Sensitizer

Special hazards arising from the substance or mixtureBiological standards**Derived No Effect Level (DNEL)**

Derived No Effect Level (DNEL)
Styrene (100-42-5)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		406 mg/Kg bw/day	85 mg/m ³	
Workers - Acute Short Term - Local effect			306 mg/m ³	
Workers - Acute Short term - Systemic effect			289 mg/m ³	
General Population - Acute Short Term - Local effect			182.7 mg/m ³	
General Population - Acute Short Term - Systemic effect			174.2 mg/m ³	
General Population - Long Term - Systemic effect	2.1 mg/Kg bw/day	343 mg/Kg bw/day	10.2 mg/m ³	

Titanium dioxide (13463-67-7)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Local effect			10 mg/m ³	
General Population - Long Term - Systemic effect	700 mg/kg bw/day			

Barium sulfate (7727-43-7)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect			10 mg/m ³	
General Population - Long Term - Systemic effect	13000 mg/kg bw/day		10 mg/m ³	

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect			4 mg/m ³	

(2-methoxymethylethoxy)propanol (34590-94-8)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		283 mg/kg bw/day	308 mg/m ³	
General Population - Long Term - Systemic effect	36 mg/kg bw/day	121 mg/kg bw/day	37.2 mg/m ³	

Potassium 2-ethylhexanoate (3164-85-0)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		12 mg/kg bw/day	32 mg/m ³	
Workers - Long Term - Systemic effect	2.5 mg/kg bw/day	6 mg/kg bw/day	8 mg/m ³	

cobalt octoate (136-52-7)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Local effect			235.1 µg/m ³	
General Population - Long Term - Systemic effect	55.8 µg/kg bw/day			
General Population - Long Term - Local effect			37 µg/m ³	

Predicted No Effect Concentration (PNEC)

PNEC Component		
Styrene (100-42-5)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	0.028 mg/L
Marine water	PNEC Aqua	0.014 mg/L
Intermittent use/release	PNEC Aqua	0.04 mg/L
Fresh water	PNEC Sediment	0.614 mg/Kg.dw
Marine water	PNEC Sediment	0.307 mg/Kg.dw
Terrestrial Compartment	PNEC Soil	0.2 mg/Kg.dw
STP microorganisms	PNEC STP	5 mg/L

Titanium dioxide (13463-67-7)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	0.127 mg/L
Marine water	PNEC Aqua	1 mg/L
Intermittent use/release	PNEC Aqua	0.61 mg/L
	PNEC STP	100 mg/L
Fresh water	PNEC Sediment	1000 mg/kg sediment dw
Marine water	PNEC Sediment	100 mg/kg sediment dw
	PNEC Soil	100 mg/kg soil dw
Secondary Poisoning	PNEC Oral	1667 mg/kg food

Barium sulfate (7727-43-7)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	227.8 mg/L
	PNEC STP	50.1 mg/L
Fresh water	PNEC Sediment	792.7 mg/kg sediment dw
	PNEC Soil	207.7 mg/kg soil dw

Silica, amorphous, fumed, crystalline-free (112945-52-5)		
Exposure	Type	PNEC
Secondary Poisoning	PNEC Oral	60000 mg/kg

(2-methoxymethylethoxy)propanol (34590-94-8)		
Exposure	Type	PNEC
Marine water	PNEC Aqua	1.9 mg/L
Fresh water	PNEC Aqua	19 mg/L
Intermittent use/release	PNEC Aqua	190 mg/L
	PNEC STP	4168 mg/L
Fresh water	PNEC Sediment	70.2 mg/kg sediment dw
Marine water	PNEC Sediment	7.02 mg/kg sediment dw
	PNEC Soil	2.74 mg/kg soil dw

Potassium 2-ethylhexanoate (3164-85-0)		
Exposure	Type	PNEC
Marine water	PNEC Aqua	0.036 mg/L
Fresh water	PNEC Aqua	0.36 mg/L
Intermittent use/release	PNEC Aqua	0.493 mg/L
	PNEC STP	71.7 mg/L
Fresh water	PNEC Sediment	6.37 mg/kg sediment dw
Marine water	PNEC Sediment	0.637 mg/kg sediment dw
	PNEC Soil	1.06 mg/kg soil dw

cobalt octoate (136-52-7)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	0.6 µg/L
Marine water	PNEC Aqua	2.36 µg/L
STP microorganisms	PNEC STP	0.37 mg/L
Fresh water	PNEC Sediment	9.5 mg/kg sediment dw
Marine water	PNEC Sediment	9.5 mg/kg sediment dw

Terrestrial Compartment	PNEC Soil	10.9 mg/kg soil dw
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8.2. Exposure controls

Occupational exposure controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits.
When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment

Personal protective equipment

General Information

Use personal protective equipment.

Respiratory protection

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
If exposure limits are likely to be exceeded / In case of insufficient ventilation wear suitable respiratory equipment :

Breathing apparatus with filter Type A (Organic gases and vapours filter conforming to EN 14387 , APF 40 < 1 hour, APF 200 > 1 hour) / Type A(2)/P3 in combination with Particulates filter conforming to EN 143 , if exposed to dust

Eye protection

Safety glasses with side-shields. Do not wear contact lenses.

Skin and body protection

Antistatic boots. Protective shoes or boots. Wear fire/flame resistant/retardant clothing.

Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training

Glove material : Neoprene , Nitriles , Viton (R) or Polyvinyl alcohol

Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Environmental exposure controls

Environmental exposure controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Remark</u>
Appearance	Variable (This Data Sheet includes all the colours)	
Physical state	Liquid	
Particle size		no data available
Odour	Styrene	
Odour Threshold	0.15 ppm	Values related to styrene
pH		no data available
pH (as aqueous solution)		no data available
Melting point/range	- 30 °C	Values related to styrene
Freezing Point		no data available
Boiling point	145 °C	Values related to styrene
Flash point	31 °C	Values related to styrene
Evaporation rate		no data available
Flammability Limits in Air		
upper	6,1 - 6,8%	Values related to styrene
lower	0,9 - 1,1%	Values related to styrene
Vapour pressure	6.52 mbar	20°C
Vapour density	3.6	Values related to styrene
Density	1.1 - 1.4 g/cm3	20°C
Water solubility	Insoluble in water	
Partition coefficient: n-octanol/water	3	Values related to styrene
Autoignition temperature	490 °C	Values related to styrene
Decomposition temperature		no data available
Viscosity, kinematic	15455 - 27273 mm2/s	20°C
Viscosity, dynamic	17000 - 30000 mPa.s	20°C
Explosive properties		not applicable
Oxidizing properties		not applicable

9.2. Other information

<u>Property</u>	<u>Values</u>	<u>Remark</u>
Solubility in other solvents	Soluble in most organic solvents	

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Product may ignite and burn at temperatures exceeding the flash point

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions In use, may form flammable/explosive vapour-air mixture.

Hazardous polymerisation Polymerisation can occur.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.
Exposure to light.
Take precautionary measures against static charges.

10.5. Incompatible materials

Materials to avoid Strong oxidizing agents, Catalyst, Peroxides, Reducing agents

10.6. Hazardous decomposition products

Hazardous decomposition products Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects**Acute toxicity**

Inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation
Irritating to respiratory system

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation	Read-across (Analogy)
Styrene 100-42-5	5000 mg/kg (Rat)	> 2000 mg/kg bw (Rat) 24h OECD 402	11.8 mg/L (Rat) 4h CSR	
Titanium dioxide 13463-67-7	> 5000 mg/kg bw (Rat) OECD 425	> 10000 mg/kg (Rabbit)	> 6,82 mg/L air (Rat) 4h	
glass, oxide, chemicals 65997-17-3	2000 - 5000 mg/kg (estimated)	> 5000 mg/kg (estimated)		
Barium sulfate 7727-43-7	> 5000 mg/kg bw (Rat) OECD 401	> 2000 mg/kg bw (Rat) OECD 408 Read across with Cas N° : 10361-37-2		
Silica, amorphous, fumed, crystalline-free 112945-52-5	> 5000 mg/kg bw (Rat) OECD 401	> 5000 mg/kg (Rabbit)	> 0.14 mg/L air (Rat) 4h (analytical) OECD 403	
(2-methoxymethylethoxy)pr opanol 34590-94-8	> 5000 mg/kg bw (Rat) Similar to OECD 401	9510 mg/kg bw(Rabbit) 24h Similar to OECD 402	LC0 (7h) > 275 ppm (1667 mg/m ³) (Rat) Similar to OECD 403	

Potassium 2-ethylhexanoate 3164-85-0	2043 mg/kg bw (Rat) OECD 401	> 2000 mg/kg bw (Rat) OECD 402	LC0 = 0.11 mg/L air (Rat, vapour) 8h OECD 436 Read across with 2-ethylhexanoic acid Cas N° : 149-57-5	
cobalt octoate 136-52-7	3129 mg/kg/bw (Rat) OECD 425			

Skin corrosion/irritation

Chemical Name	Skin corrosion/irritation	Read-across (Analogy)
Styrene 100-42-5	Irritating to skin in vivo assay rabbit	
Titanium dioxide 13463-67-7	No skin irritation No skin corrosion in vivo assay rabbit OECD 404	
Barium sulfate 7727-43-7	No skin irritation in vitro study OECD Guidelines for Testing of Chemicals + Commission regulation (EC) No. 440/2008 B.46	barium dichloride dihydrate Cas N° : 10326-27-9
Silica, amorphous, fumed, crystalline-free 112945-52-5	No skin irritation rabbit OECD 404	
(2-methoxymethylethoxy)propanol 34590-94-8	No skin irritation in vivo assay rabbit similar to OECD 404	
Potassium 2-ethylhexanoate 3164-85-0	Irritating to skin in vivo assay rabbit OECD 404	
cobalt octoate 136-52-7	No skin corrosion OECD 431 EU Method B. 40	

Serious Eye Damage/Eye Irritation

Chemical Name	Serious Eye Damage/Eye Irritation	Read-across (Analogy)
Styrene 100-42-5	Irritating to eyes in vivo assay rabbit	
Titanium dioxide 13463-67-7	No eye irritation in vivo assay rabbit OECD 405	
Barium sulfate 7727-43-7	No eye irritation in vivo assay rabbit OECD 405	
Silica, amorphous, fumed, crystalline-free 112945-52-5	No eye irritation rabbit OECD 405	
(2-methoxymethylethoxy)propanol 34590-94-8	No eye irritation in vivo assay	
Potassium 2-ethylhexanoate 3164-85-0	Ambiguous in vitro study Bovine OECD 437 EU Method B.47	
cobalt octoate 136-52-7	Moderate eye irritation OECD 437 EU Method B.47 Irritating to eyes rabbit OECD 405	

Respiratory or skin sensitisation May produce an allergic reaction.

Chemical Name	Respiratory or skin sensitisation	Read-across (Analogy)
Styrene 100-42-5	Does not cause skin sensitization Does not cause respiratory sensitization CSR	
Titanium dioxide 13463-67-7	Does not cause skin sensitization in vivo assay guinea pig OECD 406 mouse OECD 429	
Barium sulfate 7727-43-7	Does not cause skin sensitization in vivo assay mouse OECD 429	barium dichloride dihydrate Cas N° : 10326-27-9
Silica, amorphous, fumed, crystalline-free 112945-52-5	Does not cause skin sensitization Does not cause respiratory sensitization	
(2-methoxymethylethoxy)propanol 34590-94-8	Does not cause skin sensitization in vivo assay	
Potassium 2-ethylhexanoate 3164-85-0	Does not cause skin sensitization in vivo assay guinea pig OECD 406	2-ethylhexanoic acid Cas N° : 149-57-5
cobalt octoate 136-52-7	May cause sensitisation by skin contact	

Mutagenic Effects

in vitro study

Chemical Name	Ames test	Read-across (Analogy)
Styrene 100-42-5	Ambiguous In vitro gene mutation study in bacteria (S. typhimurium G46, TA1530, TA 1535, TA100, TA98, TA1538, TA 1537) OECD 471	
Titanium dioxide 13463-67-7	negative In vitro gene mutation study in bacteria OECD 471	
Barium sulfate 7727-43-7	negative In vitro gene mutation study in bacteria (S. typhimurium TA 1535, TA 1537, TA 98 and TA 100) OECD 471	barium dichloride dihydrate Cas N° : 10326-27-9
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro gene mutation study in bacteria OECD 471	
(2-methoxymethylethoxy)propanol 34590-94-8	negative In vitro gene mutation study in bacteria (Escherichia coli WP2 uvrA) similar to OECD 471	
Potassium 2-ethylhexanoate 3164-85-0	negative In vitro gene mutation study in bacteria (S. typhimurium TA 1535, TA 1537, TA 98 and TA 100) OECD 471	2-ethylhexanoic acid Cas N° : 149-57-5

Chemical Name	In vitro Mammalian Cell Gene Mutation Test	Read-across (Analogy)
Styrene 100-42-5	Ambiguous In vitro gene mutation study in mammalian cells hamster OECD 476	
Titanium dioxide 13463-67-7	negative In vitro gene mutation study in mammalian cells mouse OECD 476	

Barium sulfate 7727-43-7	negative In vitro gene mutation study in mammalian cells mouse OECD 476	barium dichloride dihydrate Cas N° : 10326-27-9
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro gene mutation study in mammalian cells OECD 476	
(2-methoxymethylethoxy)propanol 34590-94-8	negative In vitro gene mutation study in mammalian cells rat similar to OECD 482	
Potassium 2-ethylhexanoate 3164-85-0	negative In vitro gene mutation study in mammalian cells mouse hamster OECD 476 EPA OTS 798.5300	2-ethylhexanoic acid Cas N° : 149-57-5
Chemical Name	In vitro Mammalian Chromosome Aberration Test	Read-across (Analogy)
Styrene 100-42-5	positive Chromosome aberration test in vitro OECD 473 OECD 479	
Titanium dioxide 13463-67-7	negative Chromosome aberration test in vitro hamster OECD 473	
Barium sulfate 7727-43-7	negative Chromosome aberration test in vitro hamster OECD 473	barium dichloride dihydrate Cas N° : 10326-27-9
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative Chromosome aberration test in vitro OECD 473	
(2-methoxymethylethoxy)propanol 34590-94-8	negative Chromosome aberration test in vitro hamster similar to OECD 473	
Potassium 2-ethylhexanoate 3164-85-0	negative Chromosome aberration test in vitro OECD 473	2-ethylhexanoic acid Cas N° : 149-57-5

in vivo assay

Chemical Name	Unscheduled DNA Synthesis (UDS)	Read-across (Analogy)
Styrene 100-42-5	negative mouse OECD 486 OECD 474	
Titanium dioxide 13463-67-7	negative mouse	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative rat	
Potassium 2-ethylhexanoate 3164-85-0	negative mouse OECD 474	
cobalt octoate 136-52-7	negative rat OECD 474 OECD 475	

Carcinogenicity**Carcinogenicity****Styrene (100-42-5)**

Exposure routes	Method	Species	Dose	Evaluation
Inhalation	OECD 453	rat	NOAEC systemic (carcinogenicity) >= 4.34 mg/L air (nominal)	negative

Inhalation	OECD 453	mouse	LOAEC (carcinogenicity) female/male = 0.09 - 0.18 mg/L air resp., NOAEC (carcinogenicity) male = 0.09 mg/L air	positive
Oral	No information available	rat	NOAEL (carcinogenicity) >= 2000 mg/kg bw /day	positive
Oral	No information available	mouse	LOAEL (carcinogenicity) = 150 mg/kg bw /day	positive

Titanium dioxide (13463-67-7)

Exposure routes	Method	Species	Dose	Evaluation
Inhalation	OECD 453	rat	NOAEC lung tumours = 5 mg/m ³ air	negative
Oral	No information available	rat	NOEL toxicity > 50000 ppm (nominal)	negative

Barium sulfate (7727-43-7)

Exposure routes	Method	Species	Dose	Evaluation
Oral	Read across with barium dichloride dihydrate Cas N° : 10326-27-9	rat	NOAEL carcinogenicity (male) = 60 mg/kg bw/day NOAEL carcinogenicity (female) = 75 mg/kg bw/day	negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 453	rat	NOAEL = 1800 - 3200 mg/kg bw/day	negative

Reproductive toxicity**Reproductive toxicity****Styrene (100-42-5)**

Exposure routes	Method	Species	Dose	Evaluation
Inhalation	No information available	rat	NOAEL/LOAEL (fertility) 60d = 100 - 200 mg/kg bw/day	positive
Oral	OECD 422	rat	NOAEL/LOAEL (fertility) 60d = 200 - 400 mg/kg bw/day	positive
Inhalation	OECD 416	rat	NOAEC (P, F1) = 0.64 mg/L air LOAEC (P, F1) = 2.13 mg/L air NOAEC (F2) = 0.21 mg/L air LOAEC (F2) = 0.64 mg/L air (70d)	negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 415	rat	NOAEL = 497 mg/kg bw/day	negative

Potassium 2-ethylhexanoate (3164-85-0)

Exposure routes	Method	Species	Dose	Evaluation
Oral	Read-across (Analogy) 2-ethylhexanoic acid Cas N° : 149-57-5	rat	NOAEL (fertility) = 300 mg/kg bw/day	negative

Developmental Toxicity Suspected of damaging the unborn child.**Developmental Toxicity****Styrene (100-42-5)**

Exposure routes	Method	Species	Dose	Evaluation
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Inhalation	No information available	rat	NOAEC/LOAEC (maternal toxicity + developmental toxicity) >50d = 1.08 - 2.15 mg/L air	positive
Inhalation	OECD 414	rat	LOAEC (maternal toxicity) 6-15d = 1.28 mg/L air	positive
Inhalation	OECD 414	rat	NOAEC (developmental toxicity) 6-15d >= 2.56 mg/L air	negative
Inhalation	OECD 414	rabbit	NOAEC (maternal toxicity + developmental toxicity) 6-18d = 2.56 mg/L air	negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 414	rat	NOAEL (maternal toxicity) = 1350 mg/kg bw/day NOAEL (teratogenicity) = 1350 mg/kg bw/day	negative

(2-methoxymethylethoxy)propanol (34590-94-8)

Exposure routes	Method	Species	Dose	Evaluation
Inhalation	EPA OTS 798.4350	rat	NOAEL (maternal tox/teratogenicity) 6-15d = 300 ppm	negative

Potassium 2-ethylhexanoate (3164-85-0)

Exposure routes	Method	Species	Dose	Evaluation
Oral	Read-across (Analogy) 2-ethylhexanoic acid Cas N° : 149-57-5	rat	NOAEL (maternal toxicity) = 300 mg/kg bw/day LOAEL (teratogenicity) = 100 mg/kg bw/day	negative

Specific target organ toxicity - single exposure May cause irritation of respiratory tract

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure , target organ(s) : Central nervous system , Ears

STOT - repeated exposure**Styrene (100-42-5)**

Exposure routes	Method	Species	Dose	Remarks
Inhalation	OECD 412	rat mouse	NOAEC male (28d) = 3.47 mg/L air NOAEC (ototoxicity) 28d = 2.13 mg/L air NOAEC (28d) = 0.181 mg/L air NOAEC (28d) = 0.688 mg/L air	
Inhalation	No information available	rat	NOAEC (nasal tract) = 0.85 mg/L air NOAEC (overall) = 2.13 mg/L air NOAEC (ototoxicity) = 0.85 mg/L air LOAEC (ototoxicity) = 3.41 mg/L air NOAEC (overall) = 2.13 mg/L air	
Oral	No information available	rat	NOAEL (toxicity) = 1000 mg/kg bw/day LOAEL (toxicity) = 2000 mg/kg bw/day	

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Oral	No information available	mouse	NOAEL (toxicity) = 150 mg/kg bw /day LOAEL (toxicity) = 300 mg/kg bw /day	
Inhalation	OECD 453	rat	LOAEC local (toxicity) = 0.21 mg/L air	

Titanium dioxide (13463-67-7)

Exposure routes	Method	Species	Dose	Remarks
Oral	OECD 407	rat	NOEL (29d) = 24000 mg/kg bw/day	
Inhalation	No information available	rat	NOEC (carcinogenicity) = 50 mg/m ³ air NOEC (non-neoplastic changes) = 10 mg/m ³ air	

Barium sulfate (7727-43-7)

Exposure routes	Method	Species	Dose	Remarks
Oral	Read-across (Analogy) Cas N°: 10326-27-9	rat	NOAEL = 104 mg/kg bw/day	

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Species	Dose	Remarks
Oral	OECD 408	rat	NOEL (highest dose) 4000 <= 4500 mg/kg bw/day 90d	
Inhalation	OECD 413	rat	NOEC = 1.3 mg/m ³ air NOEC < 1.3 mg/m ³ air 90d	
Dermal	No information available	rabbit	NOAEL >= 10000 mg/kg bw/day	

(2-methoxymethylethoxy)propanol (34590-94-8)

Exposure routes	Method	Species	Dose	Remarks
Oral	KANPOGYO No.700, YAKUHATSU No. 1039.61 and KIKYKU No. 1014	rat	NOEL/NOAEL (4 weeks) = 200/1000 mg/kg	
Inhalation	similar to OECD 413	rat	NOAEL (13 weeks) = 200 ppm	
Dermal	similar to OECD 411	rabbit	NOAEL (90d) = 2850 mg/kg bw/day	

Potassium 2-ethylhexanoate (3164-85-0)

Exposure routes	Method	Species	Dose	Remarks
Oral	Read-across (Analogy) Cas N°: 149-57-5 TSCA	rat	NOAEL (male) = 61 mg/kg/day NOAEL (female) = 71 mg/kg/day	
Oral	No information available	mouse	NOAEL (male) = 180 mg/kg/day NOAEL (female) = 205 mg/kg/day	

cobalt octoate (136-52-7)

Exposure routes	Method	Species	Dose	Remarks
Oral	Read-across (Analogy) Cas N°: 13586-84-0 OECD 422	rat	NOAEL (female) = 5 mg/kg bw/day NOAEL (male) = 40 mg/kg bw/day	

Aspiration hazard

Due to the viscosity, this product does not present an aspiration hazard.

Other information

None

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not flush into surface water or sanitary sewer system

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Styrene 100-42-5	LC50 (72h) = 4.9 mg/L (Pseudokirchnerella subcapitata) EPA OTS 797.1050	EC50 (48h) = 4.7 mg/L (Daphnia magna) NOEC = 1.9 mg/L (Daphnia magna) OECD 202	LC50 (96h) = 4.02 - 10 mg/L (Pimephales promelas) OECD 203	EC (30min) = 500 mg/L (Activated sludge of a predominantly domestic sewage) OECD 209
Titanium dioxide 13463-67-7	EC50 (72h) > 10000 mg/L (Skeletonema costatum) ISO 10253	LC50 (48h) = 20000 mg/L (Daphnia magna)	EC50 (96h) > 100 mg/L (Brachydanio rerio) LC50 (96h) > 1000 mg/L (Fundulus heteroclitus) LC0 (48h) > 1000 mg/L (Leuciscus idus) OECD 203	EC50 (3h) > 1000 mg/L, NOEC (3h) >= 1000 mg/L (Activated sludge of a predominantly domestic sewage) OECD 209
Talc 14807-96-6			LC50 (96h) = 100 g/L (Brachydanio rerio)	
Barium sulfate 7727-43-7	EC50 (72h) > 100 mg/L (Pseudokirchnerella subcapitata) NOEC (72h) = 100 mg/L (Pseudokirchnerella subcapitata) OECD 201	EC50 (48h) = 14500 µg/L (Daphnia magna)	LC50 (96h) > 97.5 mg/L (Danio rerio) OECD 203	EC50 (3h) > 1000 mg/L (activated sludge of a predominantly domestic sewage) NOEC (3h) >= 1000 mg/L (activated sludge of a predominantly domestic sewage) OECD 209
Silica, amorphous, fumed, crystalline-free 112945-52-5		EL50 (24h) >= 1000 mg/L (Daphnia magna) OECD 202	LC50 (96h) > 10000 mg/L (Brachydanio rerio) OECD 203	
(2-methoxymethylethoxy)propanol 34590-94-8	EC50 (72h) > 969 mg/L (Pseudokirchnerella subcapitata) OECD 201	LC50 (48h) = 1919 mg/L (Daphnia magna) Similar to OECD 202	LC50 (96h) > 1000 mg/L (Poecilia reticulata) OECD 203	EC10 (18h) = 4168 mg/L (Pseudomonas putida) No guideline followed
Potassium 2-ethylhexanoate 3164-85-0	EC50 (72h) = 49.3 mg/L (Desmodesmus subspicatus) OECD 201 Read across with 2-ethylhexanoic acid Cas N° : 149-57-5	EC50 (48h) = 910 mg/L (Daphnia magna) OECD 202 Read across with Cas N° : 16977-89-3	LC50 (96h) > 100 mg/L (Oryzias latipes) OECD 203 Read across with Cas N° : 16766-89-3	EC50 (17h) = 112.1 mg/L, EC10 (17h) = 71.7 mg/L (Pseudomonas putida) DIN 38412, part 8
cobalt octoate 136-52-7	EC50 cell number yield (72h) = 283.1 µg/L EC50 growth rate (72h) = 654.2 µg/L NOEC (72h) = 150.6 µg/L (Pseudokirchnerella subcapitata) OECD 201			

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
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Styrene 100-42-5		NOEC (21d) = 1.01 mg/L (Daphnia magna) LOEC (21d) = 2.06 mg/L (Daphnia magna) EC50 (21d) = 1.88 mg/L (Daphnia magna) OECD 203		
Titanium dioxide 13463-67-7	NOEC (72h) = 5600 mg/L (Skeletonema costatum) ISO 10253	NOEC (48h) >= 3 mg/L (Daphnia magna) OECD 202, OECD 209		
Barium sulfate 7727-43-7		NOEC (21d) = 2900 µg/L (Daphnia magna) ECHA methodology (i.e., EC16/2)		
(2-methoxymethylethoxy)pr opanol 34590-94-8		NOEC (22d) >= 0.5 mg/L (Daphnia magna) Similar to OECD 211		
Potassium 2-ethylhexanoate 3164-85-0		NOEC (21d) = 25 mg/L (Daphnia magna) OECD 211		
cobalt octoate 136-52-7	NOEC/EC10 (freshwater, 7d) mortality = 86.4 µg/L and reproduction = 19.7 - 20.1 µg/L (Ceriodaphnia dubi)			

Effects on terrestrial organisms - Component Information

Chronic toxicity				
Styrene (100-42-5)				
Chronic toxicity	Method	Species	Values	Remarks
Toxicity to invertebrates	OECD 207	Eisenia foetida	LC50 (14d) = 120 mg/kg soil dw LOEC (burrowing time and mean percent weight change) = 65 mg/kg soil dw LOEC (survival) = 180 mg/kg soil dw NOEC (mean percent weight change) = 34 mg/kg soil dw	
(2-methoxymethylethoxy)propanol (34590-94-8)				
Chronic toxicity	Method	Species	Values	Remarks
plants	OECD 227	Grossypium hirsutum	NOEC (21d) = 250 g/L	

12.2. Persistence and degradability

Chemical Name	Biodegradation	Evaluation
Styrene 100-42-5	87% (20d) similar to OECD 301D	Readily biodegradable
(2-methoxymethylethoxy)propanol 34590-94-8	96 % (28d) DOC removal, 75 % (10d) OECD 301F	Readily biodegradable
Potassium 2-ethylhexanoate 3164-85-0	> 70 % (99%) (28d), Read across with benzoic acid, sodium salt OECD 301E	Readily biodegradable
cobalt octoate 136-52-7	60% (> 10d), OECD 301 B	Readily biodegradable

12.3. Bioaccumulative potential

Bioconcentration factor (BCF)		
Styrene (100-42-5)		
Method	Species	Bioconcentration factor (BCF)
Calculation method		74

Titanium dioxide (13463-67-7)		
Method	Species	Bioconcentration factor (BCF)
no data available	Oncorhynchus mykiss	20 L/kg (14d)

Barium sulfate (7727-43-7)		
Method	Species	Bioconcentration factor (BCF)
no data available	Lepomis macrochirus	74.4 L/kg

Chemical Name	log Pow
Styrene 100-42-5	3
(2-methoxymethylethoxy)propanol 34590-94-8	0.0043
Potassium 2-ethylhexanoate 3164-85-0	2.96

12.4. Mobility in soil

Chemical Name	LogKoc	Koc
Styrene 100-42-5	2.55	352

12.5. Results of PBT and vPvB assessment

Chemical Name	PBT	vPvB
Styrene 100-42-5	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Titanium dioxide 13463-67-7	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Silica, amorphous, fumed, crystalline-free 112945-52-5	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
(2-methoxymethylethoxy)propanol 34590-94-8	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Autres effets néfastes

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with the European Directives on waste and hazardous waste. Do not flush into surface water or sanitary sewer system

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other information According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

14.1. UN number

ADR/RID	UN1866
IMDG/IMO	UN1866
ICAO/IATA	UN1866

ADN UN1866

14.2. UN proper shipping name

ADR/RID

Resin solution
UN1866, RESIN SOLUTION, 3, PG III, (D/E)

IMDG/IMO

Resin solution
UN1866, RESIN SOLUTION, 3, PG III, (31°C c.c.)

ICAO/IATA

UN1866, RESIN SOLUTION, 3, PG III

ADN

Resin solution
UN1866, RESIN SOLUTION, 3, PG III14.3. Transport hazard class(es)

ADR/RID

Hazard class 3

IMDG/IMO

Hazard class 3

ICAO/IATA

Hazard class 3

ADN

Hazard class 314.4. Packing group

ADR/RID III

IMDG/IMO III

ICAO/IATA III

ADN III

14.5. Environmental hazards

ADR/RID No

IMDG/IMO No

Marine pollutant No

ICAO/IATA No

ADN No

14.6. Special precautions for user

ADR/RID

Classification Code F1
Tunnel restriction code (D/E)
Limited quantity 5 L

IMDG/IMO

EmS F-E, S-E
Limited quantity 5 L

ICAO/IATA

ERG Code 3L
Limited quantity 10 L

ADN

Classification Code F1
Limited quantity 5 L

ventilation VE01

Special precautions for users

Special precautions No information available

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

Transport in bulk according to MARPOL 73/78 and the IBC Code not applicable

SECTION 15: Regulatory information

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]

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

European Union

Chemical Name	96/82/EC (SEVESO) - §9	96/82/EC (SEVESO) - §6, §7
Styrene - 100-42-5	50000	5000 tonnes 50000 tonnes

National regulatory information

The United Kingdom

Avoid exceeding of the given occupational exposure limits (see section 8).

Ireland

Avoid exceeding of the given occupational exposure limits (see section 8).

15.2. Chemical safety assessment

not applicable

SECTION 16: Other information

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

H226 - Flammable liquid and vapour
 H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H361 - Suspected of damaging fertility or the unborn child if inhaled
 H361d - Suspected of damaging the unborn child
 H361f - Suspected of damaging fertility
 H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
 H400 - Very toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects
 EUH208 - May produce an allergic reaction

Training Advice

Handle in accordance with good industrial hygiene and safety practice. To avoid risks to man and the environment, comply with the instructions for use.

Sources of key data used to compile the datasheet

ECHA

Former date 30-Nov-2016

Revision date 08-Sep-2017

Revision Note

SDS sections updated : 1 , 3 , 8 , 11 , 12

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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.

End of Safety Data Sheet

POLYCOR ISO BR

GEL COAT

BRUSH

Date sheet n° : 4100

Updated : 02.01.17

DESCRIPTION

A pre-accelerated gel coat based on Isophthalic unsaturated polyester resin.

Cured using MEKP peroxide.

USE AREAS

This gel coat is formulated to meet the rigid requirements of transportation, boating and sanitary applications.

APPEARANCE

Product is available in clear, white, off-white and wide range of colours and can be colour matched according to a particular demand.

The product is formulated to assure complete hide in wet film thickness at 500µm. However some bright shades may have a hide slightly lower opacity.

APPLICATION

This gel coat is ready to use by brush application method.

Mix the product slowly but thoroughly for 10 minutes prior to each shift start up. Apply the correct film thickness. A wet film thickness between 300 to 600µm is required ideally working with a brush to ensure a level even thickness of ideally 500µm.

Check that the correct level of MEKP is added. A level of 1,8% w/w is recommended. Do not use more than 3% w/w or lower than 1,2% w/w of MEKP catalyst.

Minimum application temperature : 15°C

This product is not designed for use with a spray gun.

PROPERTIES / ADVANTAGES

The product is easy to use with highly controlled rheological properties providing high resistance to sagging.

This product has good resistance to yellowing over time.

This product has good gloss retention properties.

This product has good water resistance properties.

This product has resilient mechanical properties.

STORAGE / SHELF LIFE

Shelf-life : 4 Months .

When the product is sealed in its original packing, stored indoors away from direct sunlight and direct heat sources and ideally at ambient temperature between 15°C and 25°C .

FEATURES OF LIQUID PRODUCT

Properties	Test method	Conditions	Unit	Typical values
Density	MT-C G 001 O	25°C	g/cm ³	1,05 - 1,28
Solid content	MT-C G 001 C	15mn at 150°C	%	65 - 72
Viscosity	MT-C G 025 V	25°C - Spindle 5 - 5 rpm	mPa.s	22500 - 27500
Thixotropic index	MT-C G 025 V	5/50 rpm		4,0 - 4,7
Gel time	MT-C G 004 R	Catalyst : Low activity catalyst	min	8 - 13
Peak time	MT-C G 004 R		min	15 - 25
Peak exotherm	MT-C G 004 R	(200g - 25°C - 1,8% MEKP)	°C	160 - 190
Film cure	MT-C G 901 R	(500µ - 20°C - 2% MEKP)	min	45 - 80
Sag resistance	MT-C G 901 O		µm - wet	500
Hide	MT-C G 901 Q	Dependant upon colour	µm - wet	500 - 700
Colour	MT-C G 002 L			Depends colour

PROPERTIES OF THE CURED UNREINFORCED RESIN

Properties	Test method	Conditions	Unit	Typical values
H.D.T	ISO 75 - 2A (2013)	16h at 40°C	°C	54
Tensile strength	ISO 527 (2012)	16h at 40°C	MPa	59
Elongation at break	ISO 527 (2012)	16h at 40°C	%	3,8

For all additional information, refer to the Safety Data Sheet n° FP11268 available on our website.

The information contained in this document (which is to be intended only for explanatory purposes) is correct and accurate and is based on our technical and scientific knowledge and on literature at the date of publication. Such information relates only to use of the products in the pure state and for the purposes stated herein. Nothing in the information contained in this document shall be deemed to be a warranty or a representation (explicit or implicit) by the manufacturer, and/or taken or construed as infringing of any existing patents. The manufacturer shall not be under any liability or responsibility for any of the information provided under this document or for any errors, omissions or misstatements, event with regard to results to be obtained through the use of the aforesaid information.