

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

Print Date 11/22/2010
Revision date 24-10-10

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Trade name : SIGMACOVER 456 BASE (LEAD FREE COLOURS)
Technical data sheet number : For further information see Technical Data Sheet.

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

Recommended use : coating

1.3 Details of the supplier of the safety data sheet

Company : PPG Coatings SPRL/BVBA
Noordersingel 23
B-2040 Borgerhout
Telephone : +32 3 3606470
Telefax : +32 3 3606435
E-mail address : PMC.Safety@PPG.com

1.4 Emergency telephone number

Emergency telephone number : +31 20 4075210

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

R10	Flammable.
Xn; R20/21	Harmful by inhalation and in contact with skin.
R43	May cause sensitization by skin contact.
Xi; R36/38	Irritating to eyes and skin.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

The product is classified and labelled in accordance with Directive 1999/45/EC.



Harmful

Hazardous components which must be listed on the label:

- xylene
- reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight ≤ 700)

R-phrases(s)	:	R10	Flammable.
		R20/21	Harmful by inhalation and in contact with skin.
		R36/38	Irritating to eyes and skin.
		R43	May cause sensitization by skin contact.
		R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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S-phrases(s) : S23 Do not breathe spray.
S36/37 Wear suitable protective clothing and gloves.
S38 In case of insufficient ventilation, wear suitable
respiratory equipment.
S61 Avoid release to the environment. Refer to special
instructions/ Safety data sheets.

P-phrase(s) : Contains epoxy constituents. See information supplied by the
manufacturer.

2.3 Other hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures**

Components	EC No.	CAS-No.	Note	DSD Classification	CLP Classification	Concentration
xylene	215-535-7	1330-20-7	Nota C	R10 Xn; R20/21 Xi; R38	Flam. Liq.3; H226 Acute Tox.4; H332 Acute Tox.4; H312 Skin Irrit.2; H315	>=12.50 - <20.00%
iso-butanol	201-148-0	78-83-1		R10 Xi; R37/38, R41 R67	Flam. Liq.3; H226 STOT SE3; H335 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H336	>=1.00 - <2.50%
ethylbenzene	202-849-4	100-41-4		F; R11 Xn; R20	Flam. Liq.2; H225 Acute Tox.4; H332	>=2.50 - <10.00%
reaction product: bisphenol-A- (epichlorhydrin) epoxy resin (number average molecularweight ≤ 700)		25068-38-6		Xi; R36/38 R43 N; R51, R53	Eye Irrit.2; H319 Skin Irrit.2; H315 Skin Sens.1; H317 Aquatic Chronic2; H411	>=5.00 - <10.00%

* Candidate List of Substances of Very High Concern for Authorisation

|| Producer declares that for R-phrases not mentioned in chapters 3, the entire amount of hazardous substances is below
limits.

If multiple components with identical identifiers appear, these have different hazardous properties, e.g. flashpoint.

4. FIRST AID MEASURES

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4.1 Description of first aid measures

- General advice** : When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.
- Eye contact** : Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses. Seek medical advice.
- Skin contact** : Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Inhalation** : Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice.
- Ingestion** : If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
- Burns** : If spills on clothing catch fire, wash with plenty of water. Remove loose clothing. Do not remove clothing that has melted to the skin. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Show this safety data sheet to the doctor in attendance.

4.3 Indication of immediate medical attention and special treatment needed

Never give anything by mouth to an unconscious person.
Treat symptomatically.

5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

- Suitable extinguishing media** : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.
- Extinguishing media which shall not be used for safety reasons** : Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire fighting** : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

- Special protective equipment for fire-fighters** : In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

- Personal precautions** : Use personal protective equipment. Ventilate the area. Refer to protective measures listed in sections 7 and 8. Wear respiratory protection. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition.

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6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water ways. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Clean with detergents. Avoid solvents. Contain and collect spillage 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).

Additional advice : Refer to section 15 for specific national regulation.

6.4 Reference to other sections

For personal protection see section 8.

7. HANDLING AND STORAGE**7.1 Precautions for safe handling**

Safe handling advice : Avoid exceeding of the given occupational exposure limits (see section 8). Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing. Smoking, eating and drinking should be prohibited in the application area. Avoid inhalation of vapour or mist. For personal protection see section 8.

Advice on protection against fire and explosion : Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. When transferring from one container to another apply earthing measures and use conductive hose material. No sparking tools should be used. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks and open flame. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. No smoking. The accumulation of contaminated rags and dry overspray, particularly in spray booth filters, may result in spontaneous combustion. Good housekeeping standards, regular safe removal of waste materials and regular maintenance of spray booth filters will minimise the risks of spontaneous combustion and other fire hazards.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Observe label precautions. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store between 0 and 35°C (32 - 95 F) in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Electrical installations / working materials must comply with the technological safety standards. Keep away from sources of ignition - No smoking. Store in accordance with the particular national regulations (see section 15).

Further information : This product must be stored in accordance with the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.

Advice on common storage : Keep away from oxidising agents and strongly acid or alkaline materials.

7.3 Specific end uses

For further information see Technical Data Sheet.

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Marine Coatings

SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

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Revision date 24-10-10

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components on the national list and/or the European TLV list (98/24/EC):

Components	CAS-No.	Value [mg/m ³]	Value [ppm]	Basis
xylene <i>can be absorbed through skin</i> <i>Indicative</i> <i>Indicative</i> <i>can be absorbed through skin</i>	1330-20-7	220 441 221 442	50 100 50 100	EH40 WEL TWA EH40 WEL STEL EU ELV TWA EU ELV STEL
iso-butanol	78-83-1	154 231	50 75	EH40 WEL TWA EH40 WEL STEL
ethylbenzene <i>can be absorbed through skin</i> <i>Indicative</i> <i>Indicative</i> <i>can be absorbed through skin</i>	100-41-4	441 552 442 884	100 125 100 200	EH40 WEL TWA EH40 WEL STEL EU ELV TWA EU ELV STEL

8.2 Exposure controls**Respiratory protection**

: When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

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SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

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Revision date 24-10-10

Hand protection

- : For prolonged or repeated contact use protective gloves.
- Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred.
- Skin should be washed after contact.
- Use chemical resistant gloves classified under Standard EN 374: Protective gloves against chemicals and micro-organisms.

Recommended gloves: Viton (R)
Minimum breakthrough time: 480 min

The recommended gloves are based on most common solvent in this product.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection

- : Chemical resistant goggles must be worn.

Skin and body protection

- : Personnel should wear protective clothing. Skin should be washed after contact. Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire. Workers should wear antistatic footwear.

Additional advice**Environmental protection**

- : Refer to national regulations in chapter 15 for regulations on environmental protection.

Personal protection**Protective equipment**

- : Enclosing glasses, safety gloves and P2A2 half-face combi mask



Please contact your personal protection equipment supplier for further advice

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

- Form** : viscous
- Colour** : various
- Odour** : slight aromatic
- pH** :
- Flash point** : 27.5 °C

- Upper explosion limit** : 7.31 %(V)
319.91 g/m3

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PPG Protective &
Marine Coatings

SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

Print Date 11/22/2010
Revision date 24-10-10

Lower explosion limit	:	1.02 %(V) 44.5 g/m ³
Density	:	1.43 g/cm ³ at 20 °C
Water solubility	:	immiscible
Autoignition temperature	:	> 430 °C
Viscosity, dynamic	:	2,000 mPa.s at 23 °C
Flow time	:	>= 60 s Transversal section: 6 mm Method: ISO 2431 (EN 535) 6 mm CUP

9.2 Other information

No information available.

10. STABILITY AND REACTIVITY**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4 Conditions to avoid

Avoid temperatures above 60°C (140 F), direct sunlight and contact with sources of heat.

10.5 Incompatible materials

Incompatible with strong acids and bases.
Incompatible with oxidizing agents.

10.6 Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Product information : There is no data available for this product.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 3 and 15 for details.

Acute oral toxicity : May cause nausea, abdominal spasms and irritation of the mucous membranes.

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Marine Coatings

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MSDS UK 01 / EN Version 7

Print Date 11/22/2010
Revision date 24-10-10

- Acute inhalation toxicity** : Exposure to component solvent vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects. Such as: mucous membrane irritation, respiratory system irritation, adverse effects on kidney, liver and central nervous system. Symptoms and signs: headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss of consciousness.
- Skin irritation** : Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in desiccation of the skin. The product may be absorbed through the skin. Repeated skin contact may lead to irritation and to sensitization, possible with cross-sensitization to other epoxies.
- Eye contact** : Irritating to eyes.

Acute Toxicity Data for Components**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

- Further information** : No data is available on the product itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for ecotoxicological properties accordingly. See sections 3 and 15 for details. The product should not be allowed to enter drains, water courses or the soil.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

- Product** : The product should not be allowed to enter drains, water courses or the soil. Disposal together with normal waste is not allowed. Special disposal required according to local regulations.

Waste key for the unused product

- : The European Waste Catalogue classification of this product, when disposed of as waste is:
- 08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances.

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Revision date 24-10-10

If this product is fully cured or mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information contact your local waste authority

14. TRANSPORT INFORMATION

	ADR	IMDG	IATA
14.1 UN-Number	1263	1263	1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	-	-	-
Other information	Limited quantity: Max. per inner pack. : 5.00 L - Max. per outer pack. : 30.00 KG	EmS: F-E, S-E Limited quantity: Max. per inner pack. : 5.00 L Max. per outer pack. : 30.00 KG	

14.5 - Envir. Hazardous, Labels Only = Environmentally hazardous

Note

ADR: If pack sizes less than 450L, under the terms of 2.2.3.1.5, this product is not subject to the provisions of ADR.

IMDG: If pack sizes up to and including 30L, under the terms of 2.3.2.5, this product is not subject to the packaging, labelling and marking requirements of the IMDG code, but both full documentation and placarding of cargo transport units is still required.

14.6 Special precautions for users

Transport within user's premises: always transport in closed containers that are upright, labelled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

No information available.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National legislation****Further information**

:
Highly Flammable Liquids and Liquefied Petroleum Gases Regulations, 1972., HS (G) 178, Spraying of Flammable Liquids, HSE., HS (G) 176, Storage of Flammable Liquids in Tanks, HSE., HS (G) 51, Storage of Flammable Liquid in Containers, HSE., HS (G) 37, An introduction to Local Exhaust Ventilation, HSE., Health and Safety at Work etc Act, 1974, and relevant Statutory Provisions.,

SAFETY DATA SHEET

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PPG Protective &
Marine Coatings

SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

Print Date 11/22/2010
Revision date 24-10-10

Environmental Protection Act, 1990 and associated legislation., The Special Waste Regulations, 1996 and amendments., The Chemicals (Hazard Information and Packaging for Supply) Regulations, 1994 and amendments., EH 40, Occupational Exposure Limits, HSE. Revised annually., HS(G) 53, Respiratory Protective Equipment - A Practical Guide for Users, HSE., HS(G) 97, A Step by Step guide to COSHH Regulations, HSE., EH 173, Monitoring Strategies for Toxic Substances, HSE.

15.2 Chemical Safety Assessment

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

16. OTHER INFORMATION**16.1 Other information****Explanation of R-phrases mentioned in section 3**

xylene	R10	Flammable.
	R20/21	Harmful by inhalation and in contact with skin.
	R38	Irritating to skin.
	H226	Flammable liquid and vapour.
	H332	Harmful if inhaled.
iso-butanol	H312	Harmful in contact with skin.
	H315	Causes skin irritation.
	R10	Flammable.
	R37/38	Irritating to respiratory system and skin.
	R41	Risk of serious damage to eyes.
ethylbenzene	R67	Vapours may cause drowsiness and dizziness.
	H226	Flammable liquid and vapour.
	H335	May cause respiratory irritation.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight ≤ 700)	H336	May cause drowsiness or dizziness.
	R11	Highly flammable.
	R20	Harmful by inhalation.
	H225	Highly flammable liquid and vapour.
	H332	Harmful if inhaled.
	R36/38	Irritating to eyes and skin.
	R43	May cause sensitization by skin contact.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	H319	Causes serious eye irritation.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H411	Toxic to aquatic life with long lasting effects.

This Safety Data Sheet is based on the Safety Data Sheets obtained from the producer/manufacturer or/and internet databases and valid regulations considering hazardous substances/preparations.

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**PPG Protective &
Marine Coatings**

SIGMACOVER 456 BASE (LEAD FREE COLOURS)

MSDS UK 01 / EN Version 7

Print Date 11/22/2010
Revision date 24-10-10

Training advice:

Persons taking part in a turnover of hazardous products ought to be trained in product handling, safety and hygiene.

Drivers ought to be trained and obtain a certificate in accordance with the requirements of transport regulations (ADR).

Version: 7

Revision date 24.10.2010

The information contained in this safety data sheet is based on the present state of knowledge and current European and National legislation at the date of issue. The supplier reserves the right to modify data on the safety data sheet without further notice. Any change in data will normally be followed by the issue of a new safety data sheet. The user should check the date of issue and if more than 12 months have elapsed, then the data should only be used after checking with the nearest sales office of the supplier to establish that the data is still valid. As the specific conditions of use of the product are outside the suppliers control, the supplier is not responsible for the (negative) consequences of these specific conditions of use, which are outside of the suppliers control and which are not compliant with the handling, storage and other instructions in this safety data sheet.

After all component(s) stated on the relevant Technical Data Sheet have been mixed the safety precautions mentioned on each of the component(s) safety data sheets and labels should be used in assessing the safety precautions of the mixed product.

Technical data sheet number 7466

SAFETY DATA SHEET

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PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010
Revision date 05-11-10

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Trade name : SIGMACOVER 456 HS HARDENER
Technical data sheet number : For further information see Technical Data Sheet.

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

Recommended use : coating

1.3 Details of the supplier of the safety data sheet

Company : PPG Coatings SPRL/BVBA
Noordersingel 23
B-2040 Borgerhout
Telephone : +32 3 3606470
Telefax : +32 3 3606435
E-mail address : PMC.Safety@PPG.com

1.4 Emergency telephone number

Emergency telephone number : +31 20 4075210

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

R10	Flammable.
C; R34	Causes burns.
Xn; R20/21	Harmful by inhalation and in contact with skin.
Repr.Cat.3; R63,	Possible risk of harm to the unborn child., Possible risk of impaired fertility.
R62	May cause sensitization by skin contact.
R43	Irritating to respiratory system.
Xi; R37	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic
N; R51/53	environment.

2.2 Label elements

The product is classified and labelled in accordance with Directive 1999/45/EC.



Corrosive



**Dangerous for the
environment**

Hazardous components which must be listed on the label:

- polyamino imidazoline
- polyoxy propylene diamine
- xylene
- nonylphenol
- triethylenetetramine

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PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

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Revision date 05-11-10

R-phrases(s)	:	R10 R20/21 R34 R37 R43 R51/53 R62 R63	Flammable. Harmful by inhalation and in contact with skin. Causes burns. Irritating to respiratory system. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility. Possible risk of harm to the unborn child.
S-phrases(s)	:	S53 S23 S26 S36/37/39 S38 S45 S61	Avoid exposure - obtain special instructions before use. Do not breathe spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures**

Components	EC No.	CAS-No.	Note	DSD Classification	CLP Classification	Concentration
xylene	215-535-7	1330-20-7	Nota C	R10 Xn; R20/21 Xi; R38	Flam. Liq.3; H226 Acute Tox.4; H332 Acute Tox.4; H312 Skin Irrit.2; H315	>=12.50 - <20.00%
iso-butanol	201-148-0	78-83-1		R10 Xi; R37/38, R41 R67	Flam. Liq.3; H226 STOT SE3; H335 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H336	>=5.00 - <10.00%
ethylbenzene	202-849-4	100-41-4		F; R11 Xn; R20	Flam. Liq.2; H225 Acute Tox.4; H332	>=2.50 - <10.00%
polyamino imidazoline				Xi; R36/37/38 R43		>=20.00 - <25.00%

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Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

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Revision date 05-11-10

2,4,6-tris-(dimethylaminomethyl)-phenol	202-013-9	90-72-2		Xn; R22 Xi; R36/38	Acute Tox.4; H302 Eye Irrit.2; H319 Skin Irrit.2; H315	>=2.50 - <10.00%
triethylenetetramine	203-950-6	112-24-3		Xn; R21 C; R34 R43 R52, R53	Acute Tox.4; H312 Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Chronic3; H412	>=1.00 - <2.50%
nonylphenol	246-672-0	25154-52-3		Repr.Cat.3; R62, R63 Xn; R22 C; R34 N; R50, R53	Repr.2; H361fd Acute Tox.4; H302 Skin Corr.1B; H314 Aquatic Acute1; H400 Aquatic Chronic1; H410	>=5.00 - <10.00%
polyoxy propylene diamine		9046-10-0		C; R34		>=10.00 - <25.00%

* Candidate List of Substances of Very High Concern for Authorisation

Producer declares that for R-phrases not mentioned in chapters 3, the entire amount of hazardous substances is below limits.

If multiple components with identical identifiers appear, these have different hazardous properties, e.g. flashpoint.

4. FIRST AID MEASURES**4.1 Description of first aid measures**

- General advice** : When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.
- Eye contact** : Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses. Seek medical advice.
- Skin contact** : Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Inhalation** : Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice.
- Ingestion** : If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
- Burns** : If spills on clothing catch fire, wash with plenty of water. Remove loose clothing. Do not remove clothing that has melted to the skin. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Show this safety data sheet to the doctor in attendance.

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010
Revision date 05-11-10

4.3 Indication of immediate medical attention and special treatment needed

Never give anything by mouth to an unconscious person.
Treat symptomatically.

5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Keep containers and surroundings cool with water spray.

Extinguishing media which shall not be used for safety reasons : Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

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

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Ventilate the area. Refer to protective measures listed in sections 7 and 8. Wear respiratory protection. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water ways. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Clean with detergents. Avoid solvents. Contain and collect spillage 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).

Additional advice : Refer to section 15 for specific national regulation.

6.4 Reference to other sections

For personal protection see section 8.

7. HANDLING AND STORAGE**7.1 Precautions for safe handling**

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010
Revision date 05-11-10

Safe handling advice : Avoid exceeding of the given occupational exposure limits (see section 8).
Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing. Smoking, eating and drinking should be prohibited in the application area. Avoid inhalation of vapour or mist. For personal protection see section 8.

Advice on protection against fire and explosion : Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. When transferring from one container to another apply earthing measures and use conductive hose material. No sparking tools should be used. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks and open flame. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. No smoking. The accumulation of contaminated rags and dry overspray, particularly in spray booth filters, may result in spontaneous combustion. Good housekeeping standards, regular safe removal of waste materials and regular maintenance of spray booth filters will minimise the risks of spontaneous combustion and other fire hazards.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Observe label precautions. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store between 0 and 35°C (32 - 95 F) in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Electrical installations / working materials must comply with the technological safety standards. Keep away from sources of ignition - No smoking. Store in accordance with the particular national regulations (see section 15).

Further information : This product must be stored in accordance with the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.

Advice on common storage : Keep away from oxidising agents and strongly acid or alkaline materials.

7.3 Specific end uses

For further information see Technical Data Sheet.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components on the national list and/or the European TLV list (98/24/EC):

Components	CAS-No.	Value [mg/m ³]	Value [ppm]	Basis
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SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective & Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010

Revision date 05-11-10

xylene <i>can be absorbed through skin</i> Indicative Indicative <i>can be absorbed through skin</i>	1330-20-7	220 441 221 442	50 100 50 100	EH40 WEL TWA EH40 WEL STEL EU ELV TWA EU ELV STEL
iso-butanol	78-83-1	154 231	50 75	EH40 WEL TWA EH40 WEL STEL
ethylbenzene <i>can be absorbed through skin</i> Indicative Indicative <i>can be absorbed through skin</i>	100-41-4	441 552 442 884	100 125 100 200	EH40 WEL TWA EH40 WEL STEL EU ELV TWA EU ELV STEL

8.2 Exposure controls**Respiratory protection**

- : When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Hand protection

- : For prolonged or repeated contact use protective gloves. Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred. Skin should be washed after contact. Use chemical resistant gloves classified under Standard EN 374: Protective gloves against chemicals and micro-organisms.

Recommended gloves: Product is corrosive. Please contact your hand protection supplier for further advice.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection

- : Chemical resistant goggles must be worn.

Skin and body protection

- : Personnel should wear protective clothing. Skin should be washed after contact. Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire. Workers should wear antistatic footwear.

Additional advice**Environmental protection**

- : Refer to national regulations in chapter 15 for regulations on environmental protection.

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010

Revision date 05-11-10

Personal protection
Protective equipment : Special work instructions

Please contact your personal protection equipment supplier for further advice

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form : viscous
Colour :
Odour : mild amine-like
pH :
Flash point : 30.3 °C

Upper explosion limit : 8.2 %(V)
332.43 g/m3

Lower explosion limit : 1.13 %(V)
45.73 g/m3

Density : 0.94 g/cm3
at 20 °C

Water solubility : immiscible

Autoignition temperature : >335 °C

Viscosity, dynamic : 600 mPa.s at 23 °C

Flow time : >= 60 s
Transversal section: 6 mm
Method: ISO 2431 (EN 535) 6 mm CUP

9.2 Other information

No information available.

10. STABILITY AND REACTIVITY**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4 Conditions to avoid

Avoid temperatures above 60°C (140 F), direct sunlight and contact with sources of heat.

10.5 Incompatible materials

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010
Revision date 05-11-10

Incompatible with strong acids and bases.
Incompatible with oxidizing agents.

10.6 Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x),
dense black smoke.

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

- Product information** : There is no data available for this product.
The preparation has been assessed following the conventional method of the
Dangerous Preparations Directive 1999/45/EC and classified for
toxicological hazards accordingly. See Sections 3 and 15 for details.
- Acute oral toxicity** : May cause nausea, abdominal spasms and irritation of the mucous
membranes.
- Acute inhalation toxicity** : Exposure to component solvent vapours concentration in excess of the stated
occupational exposure limit may result in adverse health effects. Such as:
mucous membrane irritation, respiratory system irritation, adverse effects on
kidney, liver and central nervous system. Symptoms and signs: headache,
dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss
of consciousness.
- Skin irritation** : Repeated or prolonged contact with the preparation may cause removal of
natural fat from the skin resulting in desiccation of the skin. The product may
be absorbed through the skin.
- Eye contact** : May cause irreversible eye damage.
- Further information** : There is no data available for this product.

Acute Toxicity Data for Components

2,4,6-tris-(dimethylaminomethyl)-phenol(90-72-2)

Acute oral toxicity : LD50: 1,200 mg/kg (rat)

triethylenetetramine(112-24-3)

Acute dermal toxicity : LD50: 805 mg/kg (rabbit)

nonylphenol(25154-52-3)

Acute oral toxicity : LD50: 1,620 mg/kg (rat)

Acute inhalation toxicity : LC50: 2 mg/l (rat)

polyoxy propylene diamine(9046-10-0)

Acute oral toxicity : LD50: 1,660 mg/kg (rat)

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010

Revision date 05-11-10

Further information : No data is available on the product itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for ecotoxicological properties accordingly. See sections 3 and 15 for details. The product should not be allowed to enter drains, water courses or the soil.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Product : The product should not be allowed to enter drains, water courses or the soil. Disposal together with normal waste is not allowed. Special disposal required according to local regulations.

Waste key for the unused product : The European Waste Catalogue classification of this product, when disposed of as waste is:

08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances.

If this product is fully cured or mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information contact your local waste authority

14. TRANSPORT INFORMATION

	ADR	IMDG	IATA
14.1 UN-Number	3469	3469	3469
14.2 UN proper shipping name	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE
14.3 Transport hazard class(es)	3 + 8	3 + 8	3 + 8
14.4 Packing group	III	III	III
14.5 Environmental hazards	Envir. Hazardous, Labels Only	Marine Pollutant nonylphenol, dinonyl	Envir. Hazardous, Labels Only

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010

Revision date 05-11-10

		phenol	
Other information	Limited quantity: Max. per inner pack. : 5.00 L - Max. per outer pack. : 30.00 KG	EmS: F-E, S-C Limited quantity: Max. per inner pack. : 5.00 L Max. per outer pack. : 30.00 KG	

14.5 - Envir. Hazardous, Labels Only = Environmentally hazardous

14.6 Special precautions for users

Transport within user's premises: always transport in closed containers that are upright, labelled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

No information available.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National legislation****Further information**

:
Highly Flammable Liquids and Liquefied Petroleum Gases Regulations, 1972., HS (G) 178, Spraying of Flammable Liquids, HSE., HS (G) 176, Storage of Flammable Liquids in Tanks, HSE., HS (G) 51, Storage of Flammable Liquid in Containers, HSE., HS (G) 37, An introduction to Local Exhaust Ventilation, HSE., Health and Safety at Work etc Act, 1974, and relevant Statutory Provisions., Environmental Protection Act, 1990 and associated legislation., The Special Waste Regulations, 1996 and amendments., The Chemicals (Hazard Information and Packaging for Supply) Regulations, 1994 and amendments., EH 40, Occupational Exposure Limits, HSE. Revised annually., HS(G) 53, Respiratory Protective Equipment - A Practical Guide for Users, HSE., HS(G) 97, A Step by Step guide to COSHH Regulations, HSE., EH 173, Monitoring Strategies for Toxic Substances, HSE.

15.2 Chemical Safety Assessment

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

16. OTHER INFORMATION**16.1 Other information**

Explanation of R-phrases mentioned in section 3

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010

Revision date 05-11-10

xylene	R10	Flammable.
	R20/21	Harmful by inhalation and in contact with skin.
	R38	Irritating to skin.
	H226	Flammable liquid and vapour.
	H332	Harmful if inhaled.
iso-butanol	H312	Harmful in contact with skin.
	H315	Causes skin irritation.
	R10	Flammable.
	R37/38	Irritating to respiratory system and skin.
	R41	Risk of serious damage to eyes.
ethylbenzene	R67	Vapours may cause drowsiness and dizziness.
	H226	Flammable liquid and vapour.
	H335	May cause respiratory irritation.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
polyamino imidazoline	H336	May cause drowsiness or dizziness.
	R11	Highly flammable.
	R20	Harmful by inhalation.
2,4,6-tris-(dimethylaminomethyl)-phenol	H225	Highly flammable liquid and vapour.
	H332	Harmful if inhaled.
	R36/37/38	Irritating to eyes, respiratory system and skin.
triethylenetetramine	R43	May cause sensitization by skin contact.
	R22	Harmful if swallowed.
	R36/38	Irritating to eyes and skin.
	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H315	Causes skin irritation.
	R21	Harmful in contact with skin.
	R34	Causes burns.
	R43	May cause sensitization by skin contact.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	H312	Harmful in contact with skin.
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H412	Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

This Safety Data Sheet is prepared in accordance with Annex I to Regulation (EC) No. 453/2010.



PPG Protective &
Marine Coatings

SIGMACOVER 456 HS HARDENER

MSDS UK 01 / EN Version 7.1

Print Date 11/22/2010
Revision date 05-11-10

nonylphenol	R22	Harmful if swallowed.
	R34	Causes burns.
	R62	Possible risk of impaired fertility.
	R63	Possible risk of harm to the unborn child.
	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H400	Very toxic to aquatic life.
	H410	Very toxic to aquatic life with long lasting effects.
polyoxy propylene diamine	R34	Causes burns.

This Safety Data Sheet is based on the Safety Data Sheets obtained from the producer/manufacturer or/and internet databases and valid regulations considering hazardous substances/preparations.

Training advice:

Persons taking part in a turnover of hazardous products ought to be trained in product handling, safety and hygiene.

Drivers ought to be trained and obtain a certificate in accordance with the requirements of transport regulations (ADR).

Version: 7.1

Revision date 05.11.2010

The information contained in this safety data sheet is based on the present state of knowledge and current European and National legislation at the date of issue. The supplier reserves the right to modify data on the safety data sheet without further notice. Any change in data will normally be followed by the issue of a new safety data sheet. The user should check the date of issue and if more than 12 months have elapsed, then the data should only be used after checking with the nearest sales office of the supplier to establish that the data is still valid. As the specific conditions of use of the product are outside the suppliers control, the supplier is not responsible for the (negative) consequences of these specific conditions of use, which are outside of the suppliers control and which are not compliant with the handling, storage and other instructions in this safety data sheet.

After all component(s) stated on the relevant Technical Data Sheet have been mixed the safety precautions mentioned on each of the component(s) safety data sheets and labels should be used in assessing the safety precautions of the mixed product.

Technical data sheet number 7712

