

SIGMACAP PU FINISH HARDENER

Version 1

Print Date Dec 2013

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**Product information****Trade name** : 7690 SIGMACAP PU FINISH HARDENER**Company** : Sigma Paints Saudi Arabia Ltd.
P.O. Box 7509
Dammam 31472**Telephone** : +966 13 847 3100**Telefax** : +966 13 847 1734**Emergency telephone number** : +966 13 847 3100**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Symbol(s):	R-phrases)	Concentration
XYLENE	1330-20-7	Xn	R10, R20/21, R38	2.50 - 10.00%
ETHYL BENZENE	100-41-4	F, Xn	R11, R20	0.00 - 2.50%
HEXAMETHYLENE DIISOCYANATE	822-06-0	T	R23, R36/37/38, R42/43	0.00 - 2.50%
ALIPHATIC POLYISOCYANATE (HDI)	28182-81-2	Xi	R43	50.00 - 100.00%
2-METHOXY-1-METHYLETHYL ACETATE	108-65-6	Xi	R10, R36	10.00 - 25.00%

3. HAZARDS IDENTIFICATION**Harmful****Hazardous components :**

ALIPHATIC POLYISOCYANATE (HDI)

R-phrase(s) :

FLAMMABLE.

HARMFUL BY INHALATION.

MAY CAUSE SENSITIZATION BY SKIN CONTACT.

S-phrase(s) :

Do not breathe spray.

Wear suitable protective clothing and gloves.

In case of insufficient ventilation, wear suitable respiratory equipment.

P-phrase(s) :

Contains isocyanates. See information supplied by the manufacturer.

Note : The information required is contained in this Material Safety Data Sheet.**4. 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.

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- 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.

5. FIRE-FIGHTING MEASURES

- 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.
- Special protective equipment for fire-fighters** : In the event of fire, wear self-contained breathing apparatus.
- 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 must not be used for safety reasons** : Do NOT use water jet.

6. ACCIDENTAL RELEASE MEASURES

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

7. HANDLING AND STORAGE

- 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. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

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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. 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.

Storage

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 5 and 25°C 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).

Advice on common storage : Keep away from oxidising agents, strongly acid or alkaline materials, as well as of amines, alcohols and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Minimum ventilated air quantity for 1 liter of product**

TO REACH 10 % LEL : 46 m³/l

Components with workplace control parameters

Components	CAS-No.	Value [mg/m ³]	Value [ppm]	Basis
XYLENE <i>can be absorbed through skin</i> <i>can be absorbed through skin</i>	1330-20-7	210.00 221.00 221.00	50.00 50.00 100.00	MAC (NL) MAC TGG EU ELV TWA EU ELV STEL
ETHYL BENZENE <i>can be absorbed through skin</i> <i>can be absorbed through skin</i>	100-41-4	215.00 442.00 442.00	50.00 100.00 200.00	MAC (NL) MAC TGG EU ELV TWA EU ELV STEL
2-METHOXY-1-METHYLETHYL ACETATE <i>can be absorbed through skin</i>	108-65-6	550.00 275.00 550.00	100.00 50.00 100.00	MAC (NL) MAC TGG EU ELV TWA EU ELV STEL

Personal protective equipment

Personal protection advice : 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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- Respiratory protection** : Apply technical measures to comply with the occupational exposure limits. This should be achieved by a good general extraction and "if practically feasible" by the use of local exhaust ventilation. If the occupational exposure limits cannot be met, in exceptional cases suitable respiratory equipment should be worn only for a short period of time.
- 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.
- 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form** : liquid
- Colour** : clear
- Odour** : slight aromatic
- Flash point** : 31 °C
- Autoignition temperature** : > 280 °C
- Lower explosion limit** : 1.17 %(V)
- Density** : 1.07 g/cm³
- Water solubility** : partly soluble
- Viscosity, dynamic** : 225 mPa.s at 23 °C

10. STABILITY AND REACTIVITY

- Conditions to avoid** : Avoid temperatures above 60°C, direct sunlight and contact with sources of heat.
- Hazardous reactions** : Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Avoid moisture. Amines and alcohols cause exothermic reactions. Preparation reacts slowly with water resulting in evolution of CO₂. Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting.
- 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

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

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- 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. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition.
- 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** : The liquid splashed in the eyes may cause irritation and reversible damage.
- Further information** : There is no data available for this product.

12. ECOLOGICAL INFORMATION

- Further information** : There is no data available for this product.

13. DISPOSAL CONSIDERATIONS

- 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.

14. TRANSPORT INFORMATION

- ADR** : Class : 3 / 31c
UN-No : 1263
ADR/RID-Labels : 3
Limited Quantities: Max. per inner pack.: 5.00 L - Max. per outer pack.: 45.00 L
Proper shipping name : PAINT RELATED MATERIAL
- IMDG** : Class : 3.3
UN-No : 1263
IMDG labels : 3
EmS : 3-05
MFAG : 310
IMDG Page : 3372
Packaging group : III
Proper shipping name : PAINT RELATED MATERIAL
- IATA_C** : Class : 3, Sub-risks :
UN-No : 1263
Packaging group : III
Proper shipping name : PAINT RELATED MATERIAL

15. REGULATORY INFORMATION

- Remarks** : *A hard copy of the label is placed in section 3*

- Note** : The information required is contained in this Material Safety Data Sheet.

Hazardous components which must be listed on the label:

- ALIPHATIC POLYISOCYANATE (HDI)

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Symbol(s):	: Xn	Harmful
R-phrases(s)	: R10 R20 R43	Flammable. Harmful by inhalation. May cause sensitization by skin contact.
S-phrases(s)	: S23 S36/37 S38	Do not breathe spray. Wear suitable protective clothing and gloves. In case of insufficient ventilation, wear suitable respiratory equipment.
P-phrases(s)	: P91	Contains isocyanates. See information supplied by the manufacturer.
VOC	: 267.5 g/l Method: Calculated	
National legislation		
Vlarem	: Vlarem 2A	
CPR Classification	: K2 Xn	
NER Classification	: NER Class O.1: 0.0 %(m) NER Class O.2: 25 %(m) NER Class O.3: 0.0 %(m)	

16. OTHER INFORMATION**Explanation of R-phrases mentioned in section 2**

XYLENE	R10 R20/21 R38	Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.
ETHYL BENZENE	R11 R20	Highly flammable. Harmful by inhalation.
HEXAMETHYLENE DIISOCYANATE	R23 R36/37/38 R42/43	Toxic by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.
ALIPHATIC POLYISOCYANATE (HDI)	R43	May cause sensitization by skin contact.
2-METHOXY-1-METHYLETHYL ACETATE	R10 R36	Flammable. Irritating to eyes.

Changes since the last version will be highlighted in the margin. This version replaces all previous versions.

The information contained in this safety data sheet is based on the present state of knowledge and current national legislation at the date of issue. The company reserves the right to modify data without notice. Any change in data will normally be followed by 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 our nearest sales office to establish that they are still valid. . As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. None of the information contained in this safety data sheet can be constructed as a guarantee with regard to the properties of the product described. No liability can be accepted on the basis of this safety data sheet.



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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.

For further information see technical data sheet number: 7690