

SAFETY DATA SHEET



Hardtop Smart Pack Comp A

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

1.1 Product identifier

Product name : Hardtop Smart Pack Comp A
Product code : 18940
Product description : Paint.
Product type : Liquid.
Other means of identification : Not available.

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

Identified uses

Uses in Coatings - Industrial use
 Uses in Coatings - Professional use

See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

1.3 Details of the supplier of the safety data sheet

MANUFACTURER/SUPPLIER:

Jotun Paints (Europe) Ltd.
 Stather Road
 Flixborough, Scunthorpe
 North Lincolnshire
 DN15 8RR
 England

Tel: +44 17 24 40 00 00
 Fax: +44 17 24 40 01 00
 SDSJotun@jotun.com

1.4 Emergency telephone number

Contact NHS; phone 111.



SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
 Skin Irrit. 2, H315
 Eye Dam. 1, H318
 Skin Sens. 1, H317
 Aquatic Chronic 2, H411

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

SECTION 2: Hazards identification

Classification	: R10 Xn; R20/21 Xi; R36/38 R43 N; R51/53
Physical/chemical hazards	: Flammable.
Human health hazards	: Harmful by inhalation and in contact with skin. Irritating to eyes and skin. May cause sensitisation by skin contact.
Environmental hazards	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms	: 
--------------------------	--

Signal word	: Danger.
--------------------	-----------

Hazard statements	: Flammable liquid and vapour. Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.
--------------------------	---

Precautionary statements

General	: Not applicable.
Prevention	: Avoid breathing vapour. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.
Response	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. If skin irritation or rash occurs: Get medical attention.
Storage	: Store in a well-ventilated place. Keep cool.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: xylene epoxy resin (MW 700-1200) butan-1-ol bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
Supplemental label elements	: Not applicable.
Additional information	: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: None known.
--	---------------

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification		Type	Notes
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]		
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥10 - <25	R10 Xn; R20/21 Xi; R38	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Skin Irrit. 2, H315	[1] [2]	C
epoxy resin (MW 700-1200)	CAS: 25036-25-3	≥5 - <10	Xi; R36/38 R43	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]	-
trizinc bis (orthophosphate)	REACH #: 01-2119485044-40 EC: 231-944-3 CAS: 7779-90-0 Index: 030-011-00-6	≥5 - <9	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]	-
Solvent naphtha (petroleum), light arom.	REACH #: 01-2119455851-35 EC: 265-199-0 CAS: 64742-95-6	≥5 - <8	R10 Xn; R65 Xi; R37 R66, R67 N; R51/53	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1] [2]	H-P
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4	≥3 - <5	F; R11 Xn; R20, R48/20, R65	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Flam. Liq. 3, H226	[1] [2]	-
n-butyl acetate	Index: 601-023-00-4 REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥3 - <5	R10 R66, R67	STOT SE 3, H336 EUH066	[1] [2]	-
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≥3 - <4	R10 Xn; R22 Xi; R41, R37/38 R67	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336 Skin Sens. 1, H317	[1] [2]	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	REACH #: 01-2119491304-40 EC: 255-437-1 CAS: 41556-26-7	≥1 - <1.4	R43 N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, H332	[1]	-
12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	REACH #: 01-0000017900-73 EC: 432-840-2 CAS: 220926-97-6 Index: 616-201-00-7	≥1 - <3	Xn; R20 R53	Aquatic Chronic 4, H413	[1]	-
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	REACH #: 01-2119491304-40	≥0.3 - <0.4	R43	Skin Sens. 1, H317	[1]	-

SECTION 3: Composition/information on ingredients

Amines, C12-18-alkyldimethyl	EC: 280-060-4	≥0.001 - <0.05	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, H302	[1]	-
	CAS: 82919-37-7 REACH #: 01-2119485586-22 EC: 269-923-6 CAS: 68391-04-8		Xn; R22 C; R34 N; R50 See Section 16 for the full text of the R-phrases declared above.	Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.		

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : ☒ No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

☒ There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption

SECTION 4: First aid measures

through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains epoxy resin (MW 700-1200), bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate, methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill

- : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

- : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.

Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

Do not allow to enter drains or watercourses.

Information on fire and explosion protection

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

SECTION 7: Handling and storage**7.3 Specific end use(s)****Recommendations** : Not available.**Industrial sector specific solutions** : Not available.**SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters**Occupational exposure limits**

Product/ingredient name	Exposure limit values
xylene	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 441 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
Solvent naphtha (petroleum), light arom.	EH40-WEL (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 200 mg/m ³ 8 hours. Form: All forms TWA: 40 ppm 8 hours. Form: All forms
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 552 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 441 mg/m ³ 8 hours.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 966 mg/m ³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m ³ 8 hours. TWA: 150 ppm 8 hours.
butan-1-ol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 154 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived no effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
xylene	DNEL	Short term Inhalation	289 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Local
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic

SECTION 8: Exposure controls/personal protection

trizinc bis(orthophosphate)	DNEL	Long term Dermal	108 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	14.8 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	1.6 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	2.5 mg/m ³	Consumers	Systemic
Solvent naphtha (petroleum), light arom.	DNEL	Long term Oral	0.83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	25 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	150 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	32 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	11 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	11 mg/kg bw/day	Consumers	Systemic
ethylbenzene	DNEL	Short term Inhalation	293 mg/m ³	Workers	Local
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	15 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	1.6 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Local
n-butyl acetate	DNEL	Long term Inhalation	480 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	480 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	859.7 mg/m ³	Consumers	Systemic
	DNEL	Short term Inhalation	859.7 mg/m ³	Consumers	Local
	DNEL	Long term Inhalation	102.34 mg/m ³	Consumers	Systemic
	DNEL	Long term Inhalation	102.34 mg/m ³	Consumers	Local
	DNEL	Long term Inhalation	310 mg/m ³	Workers	Local
butan-1-ol	DNEL	Long term Oral	3.125 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	55 mg/m ³	Consumers	Local
	DNEL	Long term Inhalation			

Predicted no effect concentrations

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
xylene	PNEC	Fresh water	0.327 mg/l	-
	PNEC	Marine	0.327 mg/l	-
	PNEC	Sewage Treatment Plant	6.58 mg/l	-
	PNEC	Fresh water sediment	12.46 mg/kg dwt	-
	PNEC	Marine water sediment	12.46 mg/kg dwt	-
	PNEC	Soil	2.31 mg/kg dwt	-
trizinc bis(orthophosphate)	PNEC	Fresh water	20.6 µg/l	-
	PNEC	Marine	6.1 µg/l	-
	PNEC	Sewage Treatment Plant	52 µg/l	-
	PNEC	Fresh water sediment	117.8 mg/kg dwt	-
	PNEC	Marine water sediment	56.5 mg/kg dwt	-
	PNEC	Soil	35.6 mg/kg dwt	-
ethylbenzene	PNEC	Fresh water	0.1 mg/l	-
	PNEC	Marine	0.01 mg/l	-
	PNEC	Sewage Treatment Plant	9.6 mg/l	-
	PNEC	Fresh water sediment	13.7 mg/kg dwt	-
	PNEC	Soil	2.68 mg/kg dwt	-
	PNEC	Secondary Poisoning	20 mg/kg	-
n-butyl acetate	PNEC	Fresh water	0.18 mg/l	-
	PNEC	Marine	0.018 mg/l	-
	PNEC	Sewage Treatment Plant	35.6 mg/l	-
	PNEC	Fresh water sediment	0.981 mg/kg dwt	-
	PNEC	Marine water sediment	0.0981 mg/kg dwt	-
	PNEC	Soil	0.0903 mg/kg dwt	-
butan-1-ol	PNEC	Fresh water	0.082 mg/l	-
	PNEC	Marine	0.0082 mg/l	-
	PNEC	Sewage Treatment Plant	2476 mg/l	-
	PNEC	Fresh water sediment	0.178 mg/kg dwt	-
	PNEC	Marine water sediment	0.0178 mg/kg dwt	-
	PNEC	Soil	0.015 mg/kg dwt	-

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.
- Wear suitable gloves tested to EN374.
- May be used, gloves(breakthrough time) 4 - 8 hours: neoprene, butyl rubber, Viton®, Barricade, CPF 3, Responder, PVC
- Recommended, gloves(breakthrough time) > 8 hours: fluor rubber, 4H, Teflon, nitrile rubber, polyvinyl alcohol (PVA)
- Not recommended, gloves(breakthrough time) < 1 hour: PE
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use respiratory mask with charcoal and dust filter when spraying this product.(as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoalfilter.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**Appearance

- Physical state** : Liquid.
- Colour** : Various
- Odour** : Characteristic.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Initial boiling point and boiling range** : Lowest known value: 119°C (246.2°F) (butan-1-ol). Weighted average: 132.53°C (270.6°F)
- Flash point** : Closed cup: 28°C
- Evaporation rate** : Highest known value: 1 (n-butyl acetate) Weighted average: 0.78 compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : 0.8 - 11.3%
- Vapour pressure** : Highest known value: 1.5 kPa (11.3 mm Hg) (at 20°C) (n-butyl acetate). Weighted average: 1.04 kPa (7.8 mm Hg) (at 20°C)

SECTION 9: Physical and chemical properties

Vapour density	: Highest known value: 4 (Air = 1) (n-butyl acetate). Weighted average: 3.61 (Air = 1)
Relative density	: 1.269 to 1.507 g/cm ³
Solubility(ies)	: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Lowest known value: 280 to 470°C (536 to 878°F) (Solvent naphtha (petroleum), light aromatic).
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C): >0.225 cm ² /s (>22.5 mm ² /s)
Explosive properties	: Not available.
Oxidising properties	: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 2 and 15 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhoea, vomiting, gastro-intestinal irritation and chemical pneumonia.

Contains epoxy resin (MW 700-1200), bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate, methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction.

Product/ingredient name	Result	Species	Dose	Exposure
Xylene	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	13100 mg/kg	-

Acute toxicity estimates

SECTION 11: Toxicological information

Route	ATE value
Oral	16661 mg/kg
Dermal	8164 mg/kg
Inhalation (vapours)	58,11 mg/l

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
n-butyl acetate	Category 3	Not applicable.	Narcotic effects
butan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
trizinc bis(orthophosphate)	Acute LC50 0.14 mg/l	Fish - Oncorhynchus mykiss	96 hours
Solvent naphtha (petroleum), light arom.	Acute EC50 <10 mg/l	Daphnia	48 hours
ethylbenzene	Acute IC50 <10 mg/l	Algae	72 hours
	Acute LC50 <10 mg/l	Fish	96 hours
	Acute EC50 7.2 mg/l	Algae	48 hours
	Acute EC50 2.93 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	96 hours
Amines, C12-18-alkyldimethyl	Acute EC50 0.0014 mg/l	Algae	72 hours

Conclusion/Summary : Water polluting material. May be harmful to the environment if released in large quantities. This material is toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
trizinc bis(orthophosphate)	-	-	Not readily
Solvent naphtha (petroleum), light arom.	-	-	Not readily
ethylbenzene	-	-	Readily
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	-	-	Not readily
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	-	-	Not readily

Hardtop Smart Pack Comp A

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3,12	8.1 to 25.9	low
trizinc bis(orthophosphate)	-	60960	high
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
ethylbenzene	3,6	-	low
n-butyl acetate	2,3	-	low
butan-1-ol	1	-	low
Amines, C12-18-alkyldimethyl	2,4	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

European waste catalogue (EWC) : 08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transport information

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

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

International transport regulations

14.1 UN number : 1263

14.2 UN proper shipping name : Paint. Marine pollutant (trizinc bis(orthophosphate), Solvent naphtha (petroleum), light aromatic)

14.3 Transport hazard class(es) : 3



Marking : The environmental hazardous / marine pollutant mark is only applicable for packages containing more than 5 litres for liquids and 5 kg for solids.

14.4 Packing group : III

14.5 Environmental hazards : Yes.

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

SECTION 14: Transport information

Additional information

- ADR / RID** : Tunnel restriction code: (D/E)
Hazard identification number: 30
Special provisions: 640E
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Emergency schedules (EmS)**
F-E, S-E
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : Not determined.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

: H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H302 Harmful if swallowed.
 H302 Harmful if swallowed.
 (oral)
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 (dermal)
 H314 Causes severe skin burns and eye damage.
 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.
 H332 Harmful if inhaled.
 (inhalation)
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H373 May cause damage to organs through prolonged or repeated exposure.
 (hearing organs)
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.
 H413 May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS]

: Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
 Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4
 Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
 Aquatic Acute 1, H400 ACUTE AQUATIC HAZARD - Category 1
 Aquatic Chronic 1, H410 LONG-TERM AQUATIC HAZARD - Category 1
 Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2
 Aquatic Chronic 4, H413 LONG-TERM AQUATIC HAZARD - Category 4
 Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
 EUH066 Repeated exposure may cause skin dryness or cracking.
 Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3
 Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
 Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1
 STOT RE 2, H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SECTION 16: Other information

Full text of abbreviated R phrases	: <ul style="list-style-type: none"> R11- Highly flammable. R10- Flammable. R20- Harmful by inhalation. R22- Harmful if swallowed. R20/21- Harmful by inhalation and in contact with skin. R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation. R65- Harmful: may cause lung damage if swallowed. R34- Causes burns. R41- Risk of serious damage to eyes. R37- Irritating to respiratory system. R38- Irritating to skin. R36/38- Irritating to eyes and skin. R37/38- Irritating to respiratory system and skin. R43- May cause sensitisation by skin contact. R66- Repeated exposure may cause skin dryness or cracking. R67- Vapours may cause drowsiness and dizziness. R50- Very toxic to aquatic organisms. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R53- May cause long-term adverse effects in the aquatic environment.
Full text of classifications [DSD/DPD]	: <ul style="list-style-type: none"> F+ - Highly flammable C - Corrosive Xn - Harmful Xi - Irritant N - Dangerous for the environment
Date of printing	: 01.04.2016
Date of issue/ Date of revision	: 01.04.2016
Date of previous issue	: 14.04.2015
Version	: 4

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

Hardtop Smart Pack Comp A

Exposure Scenario: Uses in Coatings - Industrial use

Sector of Use	: Industrial use
Process Category	: PROC05 PROC07 PROC08a PROC10
Environmental release category(ies)	: ERC4

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

Frequency and duration of use	: Covers daily exposures up to 8 hours (unless stated differently)
General - Operational conditions	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented
General - Risk management measures	: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment.

Type of activity or process Risk management measures

Preparation of material for application	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Roller, spreader, flow application	: Provide extract ventilation to points where emissions occur.
Spraying - Manual	: Carry out in a vented booth provided with laminar airflow. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). and Wear a respirator conforming to EN140 with type A/P2 filter or better.

Control of environmental exposure

Organisational measures to prevent/limit release from site	: Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH #: 01-2119488216-32

Hardtop Smart Pack Comp A

Exposure Scenario: Uses in Coatings - Professional use

Sector of Use	: Professional use
Process Category	: PROC05 PROC08a PROC10 PROC11
Environmental release category(ies)	: ERC8a ERC8d

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

Frequency and duration of use	: Covers daily exposures up to 8 hours (unless stated differently)
General - Operational conditions	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented
General - Risk management measures	: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment.

Type of activity or process

Risk management measures

Preparation of material for application - Indoor	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with type A/P2 filter or better.
Preparation of material for application - Outdoor	: Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour or Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Roller, spreader, flow application - Indoor	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with type A/P2 filter or better.
Roller, spreader, flow application - Outdoor	: Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Spraying - Manual - Indoor	: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Spraying - Manual - Outdoor	: Ensure operation is undertaken outdoors. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better.

Control of environmental exposure

Organisational measures to prevent/limit release from site	: Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH #: 01-2119488216-32