

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

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

1.1 Product identifier

Product identifier : GRIP
Product name : GRIP #4 1K UNIVERSAL ADHESION PROMOTER AEROSOL
Product type : Aerosol.
Other means of identification : GRIP/AL
Date of issue/ Date of revision : 19 June 2025
Version : 1
Date of previous issue : No previous validation

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

Identified uses : Coating component.
Uses advised against : Not for sale to or use by consumers.

1.3 Details of the supplier of the safety data sheet

U-POL Limited
Denington Road
Wellingborough, Northamptonshire, NN8 2QH
+44 (0) 1933 230310
technicalsupport@u-pol.com

e-mail address of person responsible for this SDS : sds-competence@axalta.com

U-POL Netherlands
B.V. Hoorgoorddreef 15
Amsterdam, Netherlands 1101BA
+31 20 240 2216
technicalsupport@u-pol.com

1.4 Emergency telephone number

Supplier

Telephone number : +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

SECTION 2: Hazards identification

Aerosol 1, H222, H229
 Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 Repr. 2, H361d
 STOT SE 3, H336
 STOT RE 2, H373
 Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the 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

Contains

: toluene

Hazard statements

: H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H336 - May cause drowsiness or dizziness.
 H361d - Suspected of damaging the unborn child.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P211 - Do not spray on an open flame or other ignition source.
 P260 - Do not breathe dust or mist.
 P251 - Do not pierce or burn, even after use.

Response

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

Storage

: P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal

: Not applicable.

Supplemental label elements

: EUH208 - Contains hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis (ditridecyl phosphito -O")titanate(2-). May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

: None known.

SECTION 3: Composition/information on ingredients**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
toluene	REACH #: 01-2119471310-51 EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	≥25 - ≤50	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
dimethyl ether	REACH #: 01-2119472128-37 EC: 204-065-8 CAS: 115-10-6 Index: 603-019-00-8	≥25 - ≤50	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	[1] [2]
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1	≥10 - <20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119539452-40 EC: 905-588-0	≤3	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1]
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis (ditridecyl phosphito -O")titanate (2-)	EC: 264-709-9 CAS: 64157-14-8	≤0.2	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	[1]

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, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures**4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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.

SECTION 5: Firefighting measures

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.
- Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.
- 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".

- 6.2 Environmental precautions** : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

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 (see Section 13). Preferably clean with a detergent. Avoid using solvents.

- 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.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

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.

Seveso Directive - Reporting thresholds**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonnes	500 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

toluene

EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin.

STEL 15 minutes: 384 mg/m³.

TWA 8 hours: 191 mg/m³.

TWA 8 hours: 50 ppm.

STEL 15 minutes: 100 ppm.

dimethyl ether

EH40/2005 WELs (United Kingdom (UK), 1/2020)

STEL 15 minutes: 958 mg/m³.

STEL 15 minutes: 500 ppm.

TWA 8 hours: 400 ppm.

TWA 8 hours: 766 mg/m³.

acetone

EH40/2005 WELs (United Kingdom (UK), 1/2020)

STEL 15 minutes: 3620 mg/m³.

STEL 15 minutes: 1500 ppm.

TWA 8 hours: 500 ppm.

TWA 8 hours: 1210 mg/m³.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS 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.

DNELs/DMELs

Product/ingredient name

Result

SECTION 8: Exposure controls/personal protection

toluene	DNEL - Workers - Long term - Inhalation 50.3 ppm <u>Effects</u>: Systemic DNEL - General population - Long term - Oral 8.13 mg/kg bw/day <u>Effects</u>: Systemic DNEL - General population - Long term - Inhalation 56.5 mg/m³ <u>Effects</u>: Local DNEL - General population - Long term - Inhalation 56.5 mg/m³ <u>Effects</u>: Systemic DNEL - Workers - Long term - Inhalation 192 mg/m³ <u>Effects</u>: Local DNEL - Workers - Long term - Inhalation 192 mg/m³ <u>Effects</u>: Systemic DNEL - General population - Long term - Dermal 226 mg/kg bw/day <u>Effects</u>: Systemic DNEL - General population - Short term - Inhalation 226 mg/m³ <u>Effects</u>: Local DNEL - General population - Short term - Inhalation 226 mg/m³ <u>Effects</u>: Systemic DNEL - Workers - Long term - Dermal 384 mg/kg bw/day <u>Effects</u>: Systemic DNEL - Workers - Short term - Inhalation 384 mg/m³ <u>Effects</u>: Local DNEL - Workers - Short term - Inhalation 384 mg/m³ <u>Effects</u>: Systemic
dimethyl ether	DNEL - General population - Long term - Inhalation 471 mg/m³ <u>Effects</u>: Systemic DNEL - Workers - Long term - Inhalation 1894 mg/m³ <u>Effects</u>: Systemic
acetone	DNEL - Workers - Long term - Inhalation 500 ppm <u>Effects</u>: Systemic DNEL - Workers - Long term - Dermal 186 mg/kg bw/day <u>Effects</u>: Systemic

SECTION 8: Exposure controls/personal protection

	DNEL - Workers - Long term - Inhalation 1210 mg/m³ <u>Effects</u> : Systemic
	DNEL - Workers - Short term - Inhalation 2420 mg/m³ <u>Effects</u> : Local
Reaction mass of ethylbenzene and xylene	DNEL - Workers - Long term - Dermal 212 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 221 mg/m³ <u>Effects</u> : Systemic
<u>PNECs</u>	
Product/ingredient name	Result
toluene	Fresh water 0.68 mg/l
	Fresh water sediment 16.39 mg/l
	Marine water sediment 16.39 mg/kg
	Sewage Treatment Plant 13.61 mg/l
	Soil 2.89 mg/kg
	Marine water 0.68 mg/l
acetone	Fresh water 10.6 mg/l
	Marine water sediment 1.06 mg/l
	Sediment 30.4 mg/kg
	Marine water sediment 3.04 mg/kg
	Soil 29.5 mg/kg
	Sewage Treatment Plant 100 mg/l
Reaction mass of ethylbenzene and xylene	Fresh water 0.327 mg/l
	Marine water 0.327 mg/l
	Sewage Treatment Plant 6.58 mg/l

SECTION 8: Exposure controls/personal protection

Fresh water sediment

12.46 mg/kg dw

Marine water sediment

12.46 mg/kg dw

Soil

2.31 mg/kg

8.2 Exposure controls

- Appropriate engineering controls** : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

- Eye/face protection** : Use safety eyewear designed to protect against splash of liquids.

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

- Gloves** : Duration / breakthrough time: <1 hour,
Glove material: NBR, nitrile rubber, material thickness as splash protection: at least 0.2 mm, (EN374)
Glove material: NBR, nitrile rubber Material thickness for short-term contact: at least 0.5 mm, (EN374)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

Expert judgment

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

- Body protection** : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

- 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.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

SECTION 8: Exposure controls/personal protection

Environmental exposure controls : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties**Appearance**

Physical state	: Liquid.
Colour	: Clear.
Odour	: Not available.
Odour threshold	: Not available.
Melting point/freezing point	: Technically not possible to measure
Initial boiling point and boiling range	: Not applicable.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Lower: 1.1% Upper: 26.2% Not available.
Flash point	: Closed cup: -41°C (-41.8°F)
Auto-ignition temperature	: 350°C (662°F)
Decomposition temperature	: Not applicable.
pH	: Not applicable.
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.
Solubility in water	: Not available.
Miscible with water	: Yes.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: 209.1 kPa (1568.7 mm Hg)
Relative density	: Not available.
Density	: 0.772 g/cm ³
Vapour density	: Not available.
Explosive properties	: Not available.
Oxidising properties	: Not available.
Weight volatiles	: 98.5 % (w/w)
VOC content	: 98.5 % (w/w) (2010/75/EU)

9.2 Other information**9.2.1 Information with regard to physical hazard classes**

Heat of combustion : 35.02 kJ/g

Aerosol product

Type of aerosol : Spray

Further information Not available.

9.2.2 Other safety characteristics

Miscible with water : Yes.

Further information Not available.

SECTION 9: Physical and chemical properties

room temperature (=20°C)

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	: Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products.
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	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
<u>Acute toxicity</u>	
Product/ingredient name	Result
toluene	Rat - Dermal - TDLo 26.4 mg/kg <u>Toxic effects:</u> Skin After systemic exposure - Dermatitis, irritative Metabolism (intermediary) - Effect on inflammation or mediation of inflammation
	Rat - Oral - LD50 5001 mg/kg
	Rat - Dermal - LD50 5001 mg/kg
	Rat - Inhalation - LC50 Vapour 49 g/m³ [4 hours]
dimethyl ether	Rat - Oral - LD50 >99999 mg/kg
	Rat - Dermal - LD50 >99999 mg/kg
	Rat - Inhalation - LC50 Vapour 309 g/m³ [4 hours]
	Rat - Inhalation - LC50 Gas. 164000 ppm [4 hours] <u>Toxic effects:</u> Behavioral - Ataxia Behavioral - Coma
acetone	Rat - Oral - LD50 5800 mg/kg <u>Toxic effects:</u> Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor

SECTION 11: Toxicological information**Rabbit - Dermal - LD50**

2001 mg/kg

Rat - Inhalation - LC50 Vapour

21 mg/l [4 hours]

Reaction mass of ethylbenzene and xylene

Rat - Oral - LD50

3523 to 4000 mg/kg

Rabbit - Dermal - LD50

121236 mg/kg

Rat - Inhalation - LC50 Vapour

6350 to 6700 ppm [4 hours]

hydrogen tetrakis[2,2-bis[(allyloxy)methyl]
butan-1-olato-O1]bis(ditridecyl phosphito -O")
titanate(2-)**Rat - Male, Female - Oral - LD50**

4600 mg/kg

OECD [Acute Oral Toxicity]

Conclusion/Summary [Product] : Not available.**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
mixture	N/A	43188.1	N/A	431.9	N/A
toluene	5001	5001	N/A	49	N/A
dimethyl ether	N/A	N/A	164000	309	N/A
acetone	5800	2001	N/A	21	N/A
Reaction mass of ethylbenzene and xylene	N/A	1100	N/A	11	N/A
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis(ditridecyl phosphito -O")titanate(2-)	4600	N/A	N/A	N/A	N/A

Skin corrosion/irritation**Product/ingredient name**

toluene

Result**Pig - Skin - Mild irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 250 uL**Rabbit - Skin - Mild irritant**Amount/concentration applied: 435 mg

acetone

Rabbit - Skin - Mild irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 500 mg**Rabbit - Skin - Mild irritant**Amount/concentration applied: 395 mghydrogen tetrakis[2,2-bis[(allyloxy)methyl]
butan-1-olato-O1]bis(ditridecyl phosphito -O")
titanate(2-)**Rabbit - Skin - Erythema/Eschar**Duration of treatment/exposure: 4 hoursObservation period: 3 daysIrritation score: 2.7**Conclusion/Summary [Product]** : Not available.**Serious eye damage/eye irritation**

SECTION 11: Toxicological information**Product/ingredient name**

toluene

Result**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 0.1 ml

acetone

Human - Eyes - Mild irritantAmount/concentration applied: 186300 ppm**Rabbit - Eyes - Mild irritant**Amount/concentration applied: 10 µL**Rabbit - Eyes - Moderate irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 20 mg**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 20 mg**Conclusion/Summary [Product]** : Not available.**Respiratory corrosion/irritation**

Not available.

Conclusion/Summary [Product] : Not available.**Respiratory or skin sensitization****Product/ingredient name**hydrogen tetrakis[2,2-bis[(allyloxy)methyl]
butan-1-olato-O1]bis(ditridecyl phosphito -O")
titanate(2-)**Result****Mouse - skin**Result: Sensitising**Skin****Conclusion/Summary [Product]** : Not available.**Respiratory****Conclusion/Summary [Product]** : Not available.**Germ cell mutagenicity**

Not available.

Conclusion/Summary [Product] : Not available.**Carcinogenicity**

Not available.

Conclusion/Summary [Product] : Not available.**Reproductive toxicity**

Not available.

Conclusion/Summary [Product] : Not available.**Specific target organ toxicity (single exposure)**

SECTION 11: Toxicological information

Product/ingredient name	Result
toluene	STOT SE 3, H336 (Narcotic effects)
acetone	STOT SE 3, H336 (Narcotic effects)
Reaction mass of ethylbenzene and xylene	STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
toluene	STOT RE 2, H373
Reaction mass of ethylbenzene and xylene	STOT RE 2, H373

Aspiration hazard

Product/ingredient name	Result
toluene	ASPIRATION HAZARD - Category 1
Reaction mass of ethylbenzene and xylene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Not available.

Potential acute health effects

Eye contact	: Causes serious eye irritation.
Inhalation	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Causes skin irritation.
Ingestion	: Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging the unborn child.

Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name

toluene

Result

Acute - LC50 - Fresh water

Fish - Coho salmon,silver salmon - *Oncorhynchus kisutch* - Fry

Weight: 1 g

5500 µg/l [96 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna* - Juvenile (Fledgling,

Hatchling, Weanling)

6000 µg/l [48 hours]

Effect: Intoxication

Chronic - NOEC - Fresh water

Daphnia - Water flea - *Daphnia magna*

Age: ≤24 hours

1 mg/l [21 days]

Effect: Mortality

Acute - EC50 - Fresh water

Algae - Green algae - *Raphidocelis subcapitata*

12.5 mg/l [72 hours]

Effect: Growth

acetone

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

10 mg/l [48 hours]

Effect: Mortality

Chronic - NOEC - Marine water

Algae - Green algae - *Ulva pertusa*

4.95 mg/l [96 hours]

Effect: Reproduction

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

20.565 mg/l [96 hours]

Effect: Reproduction

Chronic - NOEC - Fresh water

Crustaceans - Daphnia - *Daphniidae*

0.016 ml/l [21 days]

Effect: Population

	Acute - LC50 - Fresh water Fish - Guppy - <i>Poecilia reticulata</i> <u>Age</u> : 4 to 12 months; <u>Size</u> : 2 to 10 cm; <u>Weight</u> : 0.5 to 14 g 5600 ppm [96 hours] <u>Effect</u> : Mortality
Reaction mass of ethylbenzene and xylene	Acute - LC50 OECD 203 Fish - Trout - <i>Oncorhynchus mykiss</i> 2.6 mg/l [96 hours] Acute - LC50 OECD 202 Daphnia - Daphnia - <i>Daphnia magna</i> 1 mg/l [24 hours] Acute - EC50 OECD 201 Algae - Algae - <i>Selenastrum capricornutum</i> 2.2 mg/l [73 hours] Chronic - NOEC OECD 301F Micro-organism - Activated sludge - <i>Activated sludge</i> 16 mg/l [28 days]
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis(ditridecyl phosphito -O") titanate(2-)	Acute - EC50 - Fresh water OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test] Daphnia 3.6 mg/l [48 hours] Acute - EC50 OECD [Alga, Growth Inhibition Test] Algae >100 mg/l [72 hours]

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis(ditridecyl phosphito -O") titanate(2-)	OECD [Ready Biodegradability - CO2 Evolution Test] 40.3% [28 days] - Not readily
Conclusion/Summary [Product] : Not available.	
Ingredient name	Conclusion/Summary
toluene	ECHA: toluene is readily biodegraded by both non-adapted and adapted sewage sludge inocula. Three of these studies were also used as part of a weight of evidence that toluene is readily biodegradable in the EU RAR for toluene (2003).

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis(ditridecyl phosphito -O")titanate(2-)	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
toluene	2.73	90	Low
dimethyl ether	0.07	-	Low
acetone	-0.23	-	Low
Reaction mass of ethylbenzene and xylene	3.16	-	Low

12.4 Mobility in soil

Soil/water partition coefficient : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
toluene	No	N/A	No	Yes	No	N/A	No
dimethyl ether	No	N/A	N/A	No	N/A	N/A	N/A
acetone	No	N/A	N/A	No	N/A	N/A	N/A
Reaction mass of ethylbenzene and xylene	N/A	N/A	N/A	Yes	N/A	N/A	N/A
hydrogen tetrakis[2,2-bis[(allyloxy)methyl]butan-1-olato-O1]bis(ditridecyl phosphito -O")titanate(2-)	No	N/A	N/A	No	N/A	N/A	N/A

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**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 13: Disposal considerations

Type of packaging	Waste catalogue
	15 01 10* packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1950	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	Aerosols, flammable
14.3 Transport hazard class(es)	2 	2 	2.1 	2.1 
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Tunnel code (D)**

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
UK (GB)/REACH
Annex XIV - List of substances subject to authorisation**Annex XIV**

None of the components are listed.

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.

Seveso Directive

This product is controlled under the Seveso Directive.

SECTION 15: Regulatory information**Danger criteria****Category**

P3a

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

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

: ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE = Acute Toxicity Estimate
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = GB CLP-specific Hazard statement
 IATA = International Air Transport Association
 IMDG = International Maritime Dangerous Goods
 IMO = International Maritime Organization
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Aerosol 1, H222, H229 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aerosol 1	AEROSOLS - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Gas 1A	FLAMMABLE GASES - Category 1A
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Press. Gas (Comp.)	GASES UNDER PRESSURE - Compressed gas
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Version : 1

Date of previous issue : No previous validation

Notice to reader

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