SAFETY DATA SHEET

Date of issue/Date of revision

: 13 March 2015



PPG Protective & Marine Coatings

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

| : STEELGUARD 851 WHITE |
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| : 00371796 |
| : Not available. |
| s of the substance or mixture and uses advised against |
| : Professional applications, Used by spraying. |
| : Coating. |
| of the safety data sheet |
| |
| : PMC.Safety@PPG.com |
| number |
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| D |

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. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d (Unborn child) STOT SE 3, H336 STOT RE 2, H373

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 23.5%

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

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

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SECTION 2: Hazards identification

| Classification | : | F; R11 Repr. Cat. 3; R63 Xn; R48/20 Xi; R38 R67 |
|---------------------------|---|--|
| Physical/chemical hazards | : | Highly flammable. |
| Human health hazards | : | Possible risk of harm to the unborn child. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to skin. Vapours may cause drowsiness and dizziness. |

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** : Highly flammable liquid and vapour. Causes skin irritation. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. **Precautionary statements Prevention** : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe vapour. : IF exposed or concerned: Get medical attention. IF INHALED: Remove person to Response fresh air and keep comfortable for breathing. Storage : Store in a well-ventilated place. Keep cool. Disposal : Not applicable. **Hazardous ingredients** : toluene Supplemental label : Not applicable. elements **Annex XVII - Restrictions** : Not applicable. on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles **Special packaging requirements** Containers to be fitted : Not applicable. with child-resistant fastenings Tactile warning of danger : Not applicable. 2.3 Other hazards Other hazards which do : Prolonged or repeated contact may dry skin and cause irritation. not result in classification

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SECTION 3: Composition/information on ingredients

| 3.2 Mixtures | : Mixture | | | | |
|----------------------------|--|----------------|---|---|---------|
| | | | Classification | | |
| Product/ingredient name | Identifiers | % by weight | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | Туре |
| toluene | REACH #: 01-2119471310-51 | ≥18 - <25 | F; R11 | Flam. Liq. 2, H225 | [1] [2] |
| | EC: 203-625-9 CAS: 108-88-3 | | Repr. Cat. 3; R63 Xn; R48/20, R65 | Skin Irrit. 2, H315 Repr. 2, H361d (Unborn child) | |
| | Index: 601-021-00-3 | | Xi; R38 R67 | STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 | |
| butanone | REACH #: 01-2119457290-43 | ≥2.1 - <3 | F; R11 | Flam. Liq. 2, H225 | [1] [2] |
| | EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3 | | Xi; R36 R66, R67 | Eye Irrit. 2, H319 STOT SE 3, H336 | |
| | | | See Section 16 for the full text of the R- phrases declared above. | 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.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

| 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. |
|----------------------------|--|
| 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. |
| 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. |

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| Eligiisii (OD) | onited Kingdom (ort) | 5/10 |

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|---|---|
| SECTION 4: First ai | d measures |
| 4.2 Most important symptor | ns and effects, both acute and delayed |
| Potential acute health effe | <u>cts</u> |
| Eye contact | : No known significant effects or critical hazards. |
| Inhalation | : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | : Causes skin irritation. Defatting to the skin. |
| Ingestion | : Can cause central nervous system (CNS) depression. |
| Over-exposure signs/sym | <u>ptoms</u> |
| Eye contact | : Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | : Adverse symptoms may include the following: 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 dryness cracking 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 immed | iate 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

SECTION 5: Firefighting measures

: No specific treatment.

| 5.1 Extinguishing media Suitable extinguishing media | : Use dry chemical, CO ₂ , water spray (fog) or foam. |
|--|--|
| Unsuitable extinguishing media | : Do not use water jet. |

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Highly 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.

| United Kingdom (UK) | |
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| SECTION 5: Firefight | ing measures |
| Hazardous combustion products | : Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides carbonyl halides metal oxide/oxides |
| 5.3 Advice for firefighters | |
| Special precautions 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, prot | teo | ctive 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. Avoid breathing 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". |
| 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). |
| 6.3 Methods and material for o | :01 | ntainment 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. |

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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

| Protective measures | : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. |
|---|--|
| Advice on general occupational hygiene | : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| 7.2 Conditions for safe storage, including any incompatibilities | : Storage temperature: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. |
| 7.3 Specific end use(s) Recommendations Industrial sector specific solutions | Not available.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

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SECTION 8: Exposure controls/personal protection

| toluene EH40/2005 WELs (Unitied Kingdom (UK), 12/2011). Absorbed through skin. STEL: 348 mg/m ² 15 minutes. STEL: 398 mg/m ² 15 minutes. butanone EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 300 pmr 15 minutes. TWA: 50 pm 8 hours. TWA: 50 pm 8 hours. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 36 hours. TWA: 500 pg/m ² 8 hours. TWA: 200 pm 8 hours. TWA: 200 pm 8 hours. TWA: 200 pm 8 hours. TWA: 200 pm 8 hours. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 15 minutes. STEL: 300 pmr 36 hours. TWA: 200 pm 8 hours. TWA: 200 pm 8 hours. TWA: 200 pm 8 hours. Stellation or other control measures and/or the necessity to use repriratory protective equipment. Reference should be made to monitoring standards. Stellation or other application and use of procedures for the assessment of exposure by inhalation to chemical agents or comparison with limit values and measurement strategy). European Standard EN 4042 (Workplace atmospheres - Guidence for the assessment of exposure lo chemical and biological agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required. DNELs - Not available. PNE | Product/ingredient r | name | Exposure limit values | |
|---|--------------------------------|---|--|---------------------------------------|
| butanone EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 800 mg/m ² 15 minutes. STEL: 300 ppm 15 minutes. TWA. 200 ppm 8 hours. TWA. 200 ppm 8 hours. 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 489 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 482 (Workplace atmospheres - Gueder 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 DNELs - Not available. IUse only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to aiborne controls 8.2 Exposure controls Appropriate engineering I Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to aiborne controls Hyglene measures I 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 used to incource | toluene | | through skin. STEL: 384 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 191 mg/m ³ 8 hours. | |
| proceduresatmosphere 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 889 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents) 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 14042 (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.DNELsNot available.PNECs PNECsVarial agentsPNECs controlsUse only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.Individual protection measuresWash 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.Eyelface protection: Chemical aplash goggles.Skin protection: Chemical aplash goggles.Skin protection: Chemical aplash goggles.Skin protection: Chem | butanone | | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 899 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 600 mg/m ³ 8 hours. | |
| DNELs DNELs - Not available. PNECs PNECs - Not available. 8.2 Exposure controls Appropriate engineering controls individual protection measures Hygiene measures Yeyface protection Skin protection Skin protection Hand protection Skin protection Chemical splash goggles. Skin protection Skin protection Chemical splash goggles. Skin protection Generation Chemical resistant, impervious gloves complying with an approved standard should be worth 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 | | atmosphere or k of the ventilation protective equip the following: E the assessment limit values and atmospheres - C exposure to che (Workplace atm for the measure documents for n | biological monitoring may be required to determine the effectivened or other control measures and/or the necessity to use respiratory ment. Reference should be made to monitoring standards, such uropean Standard EN 689 (Workplace atmospheres - Guidance f of exposure by inhalation to chemical agents for comparison with measurement strategy) European Standard EN 14042 (Workplac Guide for the application and use of procedures for the assessmen mical and biological agents) European Standard EN 482 ospheres - General requirements for the performance of procedu ment of chemical agents) Reference to national guidance | / as for ce nt of ures |
| PNECs - Not available. 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 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 : 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 | | | | |
| 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: 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 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 | | | | |
| controlsventilation 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 measuresWash 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 Hand protectionChemical-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 | 8.2 Exposure controls | | | |
| 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: Chemical splash goggles.Skin 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 | | ventilation or oth contaminants b also need to ke | her engineering controls to keep worker exposure to airborne elow any recommended or statutory limits. The engineering cont ep gas, vapour or dust concentrations below any lower explosive | rols |
| 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 Chemical splash goggles. 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 | Individual protection measures | | | |
| Skin 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 | Hygiene measures : | eating, smoking Appropriate tec Wash contamin | and using the lavatory and at the end of the working period. hniques should be used to remove potentially contaminated cloth nated clothing before reusing. Ensure that eyewash stations and | |
| 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 | | Chemical splas | h goggles. | |
| 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 | | Chomical resid | tant imponsious downs complying with an approved standard the | uld |
| | Hand protection : | be worn at all tin this is necessar check during us should be noted different for diffe | mes when handling chemical products if a risk assessment indica y. Considering the parameters specified by the glove manufactur se that the gloves are still retaining their protective properties. It d that the time to breakthrough for any glove material may be erent glove manufacturers. In the case of mixtures, consisting of | tes er, |
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SECTION 8: Exposure controls/personal protection

| Gloves | : | nitrile rubber, butyl rubber, PVC, Viton® |
|---------------------------------|---|--|
| 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 | : | Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. |
| 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

| English (GB) | United Kingdom (IIK) | 8/15 |
|---|--|------|
| Viscosity | : Kinematic (40°C): >0.21 cm ² /s | |
| Decomposition temperature | : Not available. | |
| Auto-ignition temperature | : Not available. | |
| water | . Not available. | |
| Partition coefficient: n-octanol/ | C C C C C C C C C C C C C C C C C C C | |
| Solubility(ies) | I.so Insoluble in the following materials: cold water. | |
| Vapour density Relative density | : Highest known value: 3.1 (Air = 1) (toluene). Weighted average: 3.03 (Air = 1.35 | 1) |
| Vapour pressure | Highest known value: 10.5 kPa (78.8 mm Hg) (at 20°C) (butanone). Weighted average: 3.87 kPa (29.03 mm Hg) (at 20°C) Highest known value: 2.4 (Air = 4) (takense) M(sighted suggests) 2.02 (Air = 4) | |
| explosive limits | Upper: 7.38% | al |
| Upper/lower flammability or | : Lower: 1.15% | |
| Flammability (solid, gas) | Not available. | |
| Evaporation rate Material supports combustion. | : Not available. : Yes. | |
| Flash point | : Closed cup: 3°C | |
| range | | |
| Initial boiling point and boiling | : >37.78°C | |
| Melting point/freezing point | : Not available. | |
| рН | Not available. | |
| Odour threshold | : Not available. | |
| Odour | : Aromatic. [Strong] | |
| Colour | : White. | |
| Physical state | : Liquid. | |
| <u>Appearance</u> | | |
| | | |

English (GB)

| Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010 - | |
|---|--|
| United Kingdom (UK) | |

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SECTION 9: Physical and chemical properties

Explosive properties Oxidising properties

: Not available. : Not available.

9.2 Other information

No additional information.

| y and reactivity |
|---|
| : No specific test data related to reactivity available for this product or its ingredients. |
| : The product is stable. |
| : Under normal conditions of storage and use, hazardous reactions will not occur. |
| : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8. |
| : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids. |
| : 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

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|------------------------|---------|-------------|----------|
| toluene | LC50 Inhalation Vapour | Rat | 49 g/m³ | 4 hours |
| | LC50 Inhalation Vapour | Rat | 8000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 8.39 g/kg | - |
| | LD50 Oral | Rat | 636 mg/kg | - |
| titanium dioxide | LD50 Oral | Rat | >10 g/kg | - |
| pentaerythritol | LD50 Oral | Rat | 18500 mg/kg | - |
| butanone | LC50 Inhalation Vapour | Rat | 11243 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 6480 mg/kg | - |
| | LD50 Oral | Rat | 2737 mg/kg | - |
| Kaolin | LD50 Oral | Rat | >5000 mg/kg | - |

Conclusion/Summary

Acute toxicity estimates

| | Route | ATE value |
|---------------------------|------------------|-----------|
| Not available. | | |
| Irritation/Corrosion | | |
| Conclusion/Summary | : Not available. | |
| Sensitisation | | |
| Conclusion/Summary | : Not available. | |
| Mutagenicity | | |
| | | |

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SECTION 11: Toxicological information

| Conclusion/Summary | : Not available. |
|--------------------------------|------------------|
| Carcinogenicity | |
| Conclusion/Summary | : Not available. |
| Reproductive toxicity | |
| Conclusion/Summary | : Not available. |
| Teratogenicity | |
| Conclusion/Summary | : Not available. |
| On a stift a farmed among farm | |

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|----------|-------------------|--------------------------------------|
| | 0, | | Narcotic effects Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|------------|-------------------|----------------|
| toluene | Category 2 | Not determined | Not determined |

Aspiration hazard

| Produc | t/ingredient name | Result |
|--|--|--|
| toluene | | ASPIRATION HAZARD - Category 1 |
| Information on the likely routes of exposure | : Not available. | |
| Potential acute health effe | ects | |
| Inhalation | : Can cause central nervous system dizziness. | em (CNS) depression. May cause drowsiness or |
| Ingestion | : Can cause central nervous system | em (CNS) depression. |
| Skin contact | : Causes skin irritation. Defatting | to the skin. |
| Eye contact | : No known significant effects or o | critical hazards. |
| Symptoms related to the p | physical, chemical and toxicologica | characteristics |
| Inhalation | : Adverse symptoms may include nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced foetal weight increase in foetal deaths skeletal malformations | the following: |
| Ingestion | : Adverse symptoms may include reduced foetal weight increase in foetal deaths skeletal malformations | the following: |
| Skin contact | : Adverse symptoms may include irritation redness dryness cracking reduced foetal weight increase in foetal deaths | the following: |
| English (GB) | United King | dom (UK) 10/1 |

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| SECTION 11: Toxicol | lo | gical information |
| | | skeletal malformations |
| Eye contact | : | Adverse symptoms may include the following: pain or irritation watering redness |
| Delayed and immediate effe | cts | and also chronic effects from short and long term exposure |
| <u>Short term exposure</u> | | |
| Potential immediate effects | 1 | Not available. |
| Potential delayed effects | : | Not available. |
| Long term exposure | | |
| Potential immediate effects | ; | Not available. |
| Potential delayed effects | : | Not available. |
| Potential chronic health effe | ct | |
| Not available. | | |
| Conclusion/Summary | : | Not available. |
| General | : | May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. |
| Carcinogenicity | : | No known significant effects or critical hazards. |
| Mutagenicity | : | No known significant effects or critical hazards. |
| Teratogenicity | : | Suspected of damaging the unborn child. |
| Developmental effects | : | No known significant effects or critical hazards. |
| Fertility effects | : | No known significant effects or critical hazards. |
| Other information | 1 | Not available. |

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 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 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.

SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|----------------------------------|-------------------------|----------|
| titanium dioxide | Acute LC50 >100 mg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| Conclusion/Summary | : Not available. | | |

12.2 Persistence and degradability

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SECTION 12: Ecological information

| Conclusion/Summary | : Not available. | | |
|-------------------------|-------------------|------------|------------------|
| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
| toluene | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|-------------------------|--------|------|-----------|
| toluene | 2.73 | 8.32 | low |
| pentaerythritol | -1.69 | 1.26 | low |
| butanone | 0.29 | - | low |

| 12.4 | Mob | ility | in | soil | |
|------|-----|-------|----|------|--|
|------|-----|-------|----|------|--|

| Soil/water partition coefficient (K _{oc}) | : | Not available. |
|---|---|----------------|
| Mobility | ; | Not available. |

| 12.5 Results of PBT a | nd 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).

| 3.1 Waste treatment meth | lods |
|--------------------------|---|
| 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 | : Yes. |
| European waste catalog | ue (EWC) |
| Waste code | Waste designation |
| 08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances |
| 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. |
| Type of packaging | European waste catalogue (EWC) |
| Container | 15 01 06 mixed packaging |
| | |

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SECTION 13: Disposal considerations

Special precautions
 This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

| | ADR/RID | ADN | IMDG | IATA |
|------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 14.1 UN number | UN1263 | UN1263 | UN1263 | UN1263 |
| 14.2 UN proper shipping name | PAINT | PAINT | PAINT | PAINT |
| 14.3 Transport hazard class(es) | 3 | 3 | 3 | 3 |
| 14.4 Packing group | II | II | II | II |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| Marine pollutant substances | Not applicable. | Not applicable. | Not applicable. | Not applicable. |

Additional information

| ADR/RID | : None identified. |
|-------------|--|
| Tunnel code | : (D/E) |
| ADN | : None identified. |
| IMDG | : None identified. |
| IATA | : The environmentally hazardous substance mark may appear if required by other transportation regulations. |

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 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 Annex XIV None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

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

Other EU regulations

| Product/ingredient name | Carcinogenic effects | • | Developmental effects | Fertility effects |
|-------------------------|-------------------------|---|----------------------------------|-------------------|
| toluene | - | - | Repr. 2, H361d (Unborn child) | - |

15.2 Chemical Safety

: No Chemical Safety Assessment has been carried out.

Assessment

SECTION 16: Other information

| Indicates information that has | changed | from previously is | sued version. | |
|---|---|--|---|--|
| Abbreviations and acronyms | ATE = Acute Toxicity Estimate | | | |
| | CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DNEL = Derived No Effect Level | | | |
| | | ecific Hazard statement ect Concentration | | |
| | | REACH Registrat | | |
| H225 Highly flammable liquid and H304 May be fatal if swallowed ar H315 Causes skin irritation. | | wallowed and enters airways. ation. | | |
| | H319 | Causes serious | eye irritation. | |
| | H336 | May cause drow | vsiness or dizziness. | |
| | H361d (Unborn | Suspected of da | amaging the unborn child. | |
| | child) | | | |
| | H373 | May cause dam | age to organs through prolonged or repeated exposure. | |
| | Asp. To | с. 1, H304 | ASPIRATION HAZARD - Category 1 | |
| | | 2, H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 | |
| | | q. 2, H225 | FLAMMABLE LIQUIDS - Category 2 | |
| | Repr. 2, child) | H361d (Unborn | TOXIC TO REPRODUCTION (Unborn child) - Category 2 | |
| | , | 2, H315 | SKIN CORROSION/IRRITATION - Category 2 | |
| | | E 2, H373 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 | |
| | STOT S | E 3, H336 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 | |
| Full text of abbreviated H statements | H225 H304 H315 | | le liquid and vapour. wallowed and enters airways. | |
| | H319 | | | |
| | H336 | Causes serious | /siness or dizziness. | |
| | H361d | | amaging the unborn child. | |
| | (Unborn child) | Suspected of da | | |
| | H373 | May cause dam | age to organs through prolonged or repeated exposure. | |
| | | | | |

| United Kingdom (UK) | | | |
|--|---|--|--|
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| SECTION 16: Other | information | | |
| Full text of classifications [CLP/GHS] | Asp. Tox. 1, H304 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Repr. 2, H361d (Unborn child) Skin Irrit. 2, H315 STOT RE 2, H373 STOT SE 3, H336 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 | | |
| Full text of abbreviated R phrases | R11- Highly flammable. R63- Possible risk of harm to the unborn child. R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation. R65- Harmful: may cause lung damage if swallowed. R36- Irritating to eyes. R38- Irritating to skin. R66- Repeated exposure may cause skin dryness or cracking. R67- Vapours may cause drowsiness and dizziness. | | |
| Full text of classifications [DSD/DPD] | F - Highly flammable Repr. Cat. 3 - Toxic to reproduction category 3 Xn - Harmful Xi - Irritant | | |
| <u>History</u> Date of issue/ Date of revision | : 13 March 2015 | | |
| Date of previous issue Prepared by Version | No previous validation EHS 1 | | |

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