KHUA®
ZHEJIANG GUANGHUA TECHNOLOGY

# SAFETY DATA SHEET

**Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| A. **Product Name**: | **GH-1253** |
| B.**Version（Date）:** | 4（September 1, 2020） |
| C. **Chemical identification**: | SATURATED CARBOXYLATED POLYESTER RESIN |
| D. **Intended/Recommended Use**: | Powder Coating |
| E. **Contact Information**: | |
| ■ Company name | ZheJiang GuangHua Technology Co., Ltd |
| ■ Address | No.3 Huanyuan East Road, Yanguan Town, Haining, Zhengjiang, China |
| ■ Telephone | 86-573-87771666 |
| ■ Fax | 86-573-87771222 |
| ■ Emergency call | 86-573-87771199 |
| F. **Department**: | R & D |

## 2. HAZARD IDENTIFICATION

| | |
|---|---|
| **2.1 Classification of the substance or mixture** | |
| **Product Definition** | Mixture |
| **Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]** | Not classified<br>The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended. |
| **2.2 Label elements** | |
| Signal Word | No signal word |
| Hazard Statements | No known significant effects or critical hazards |
| Precautionary Statements - Code | Contains benzene-1,2,4-tricarboxylic acid 1,2-anhydride. May produce an allergic reaction.<br>Safety data sheet available on request. |
| **Precautionary statements** | |
| **- Prevention** | Not applicable |
| **- Response** | Not applicable |
| **- Storage** | Not applicable |
| **- Disposal** | Not applicable |
| Hazardous ingredients | |
| **2.3 Other hazards** | |
| Other hazards which do not result in classification | Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat. |

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

| 3.1 Substances / 3.2 Mixtures | Mixture | | |
|---|---|---|---|
| Product/ingredient name | Identifiers | % | Classification Regulation (EC) No. 1272/2008 [CLP] |
| benzene-1,2,4-tricarboxylic acid | EC: 208-432-3<br>CAS: 528-44-9 | ⩽3 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>See Section 16 for the full text of the H statements declared above. |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | REACH #: 01-2119489422-34<br>EC: 209-008-0<br>CAS: 552-30-7<br>Index: 607-097-00-4 | ⩽1 | Eye Dam. 1, H318<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>STOT SE 3, H335 |

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.

| | |
|---|---|
| **4. FIRST AID PROCEDURES** | |
| **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. Get medical attention if irritation occurs. |
| **Inhalation:** | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| **Skin contact:** | Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| **Ingestion:** | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel.<br>Get medical attention if symptoms occur. |
| **Protection of first-aiders** | No action shall be taken involving any personal risk or without suitable training. |
| **4.2 Most important symptoms and effects, both acute and delayed** | |
| **Over-exposure signs/symptoms** | |
| **Eye contact:** | Adverse symptoms may include the following:<br>irritation<br>redness |
| **Inhalation:** | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing |
| **Skin contact:** | No specific data. |
| **Ingestion:** | No specific data. |
| **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. |
| **5. FIRE FIGHTING PROCEDURES** | |
| **5.1 Extinguishing media** | |
| **Suitable** | Use dry chemical powder. |
| **Not suitable** | Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. |
| **5.2 Special hazards arising from the substance or mixture** | |
| **Hazards from the substance or mixture** | Fine dust clouds may form explosive mixtures with air. |
| **Hazardous combustion products** | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>(dense) black smoke<br>aldehydes<br>organic acids |
| **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 firefighters (including helmets, protective boots and gloves) conforming to European standard EN469 will provide a basic level of protection for chemical incidents. |
| **Additional information** | Fine dust clouds may form explosive mixtures with air. |
| **6. ACCIDENTAL RELEASE PROCEDURES** | |
| **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. Avoid breathing dust. 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 Section8 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 containment and cleaning up** | |
| **Small spill** | Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. |
| **Large spill** | Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section13 for waste disposal. |
| **6.4 Reference to other sections** | See Section 1 for emergency contact information.<br>See Section 8 for information on appropriate personal protective equipment.<br>See Section 13 for additional waste treatment information. |
| **7. STORAGE AND HANDLING** | |
| 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. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. 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.<br>Remove contaminated clothing and protective equipment before entering eating areas. See also<br>Section 8 for additional information on hygiene measures. |
| **7.2 Conditions for safe storage, including any incompatibilities** | Do not store above the following temperature: 30°C (86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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. Store in original container, protected from direct sunlight.<br>Keep away from heat and direct sunlight. |

| | |
|---|---|
| **7.3 Specific end use(s)** | |
| **Recommendations** | Resin system used in the production of coatings. |
| **Industrial sector specific solutions** | Not available. |
| **Remarks** | Prevent formation of dust clouds. Earth connection against static electricity. |

## 8. EXPOSURE CONTROL/INDIVIDUAL PROTECTION

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

**8.1 Control parameters**

**Occupational exposure limits**

| Product/ingredient name | Exposure limit values |
|---|---|
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser.<br>TWA: 0.04 mg/m³ 8 hours.<br>STEL: 0.12 mg/m³ 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 EN14042 (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. |

**DNELs/DMELs**

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|---|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | DNEL | Long term Inhalation | 17.5 mg/m³ | Workers | Systemic |
| | DNEL | Short term Inhalation | 35 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 5 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 4.4 mg/m³ | Consumers | Systemic |
| | DNEL | Long term Dermal | 2.5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Oral | 2.5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Short term Inhalation | 4.4 mg/m³ | Consumers | Systemic |

**PNECs**

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | Fresh water | 0.739 mg/l | - |
| | Marine water | 0.074 mg/l | - |
| | Intermittent releases | 7.39 mg/l | - |
| | Sewage Treatment Plant | 10 mg/l | - |
| | Fresh water sediment | 4.97 mg/kg dwt | - |
| | Marine water sediment | 0.497 mg/kg dwt | - |
| | Soil | 9.55 mg/l<br>Kg dwt | - |

**8.2 Exposure controls**

| | |
|---|---|
| **Appropriate engineering controls** | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, 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.<br>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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| **Eye/face protection** | Full-face mask |
| **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. |
| **Skin and body** | Working clothes. |
| **Respiratory protection** | Wear dust protection mask P2. |
| **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. |
| **Remarks** | All chemical protective gloves are suitable to prevent contact with the skin. The choice of gloves should be aimed at physical protection of the hands. |

**Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual exposure situation.**

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **A. Color** | pale | **K. Saturation In Air(% by Vol.)** | Not available |
| **B. Appearance** | flakes | **L. Evaporation Rate** | Not available |
| **C. Odor** | odorless | **M. Solubility In Water** | Not available |
| **D. Boiling Point** | Not available | **N. Volatile Organic Content** | < 1 % |
| **E. Melting Point** | Not applicable | **O. Flash Point** | > 200 °C(Cleveland Open Cup) |
| **F. Vapor Pressure** | Not applicable | **P. Flammable Limits(% by Vol)** | Not available |
| **G. Specific Gravity/Density** | 1.2g/cm3 @ 20°C | **Q. Auto-ignition temperature** | > 300 °C(VDI Guideline 2263) |
| **H. Vapour density** | Not available | **R. Decomposition Temperature** | Not available |
| **I. Percent Volatile(% by wt.)** | Not available | **S. Partition coefficient** | Not available |
| **J. PH** | Not available | | |

## 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.<br>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 | Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). 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. Prevent dust accumulation.<br>Decomposes on heating to high temperature. |
| 10.5 Incompatible materials | Reactive or incompatible with the following materials:<br>oxidizing materials |
| 10.6 Hazardous decomposition products | No specific data. |

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | LC0 Inhalation Dusts and mists | Rat | >3750 mg/m³ | 4 hours |
| | LD50 Dermal | Rabbit | >2000 mg/kg ( LD0 = 2000 mg/kg ) | - |
| | LD50 Oral | Rat - Male, Female | 2730mg/kg | - |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | LC50 Inhalation Dusts and mists | Rat - Male, Female | >2.33 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | >2000 mg/kg ( LD0 = 2000 mg/kg ) | - |
| | LD50 Oral | Rat – Female | 2030 mg/kg | - |
| | LD50 Oral | Rat – Male | 3340 mg/kg | - |
| | LD50 Oral | Rat – Male, Female | 2730 mg/kg | - |

**Conclusion/Summary** Not available.

**Acute toxicity estimates**

| Route | ATE value |
|---|---|
| Oral | 40212.1 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Skin - Mild irritant | Rabbit | - | 4 hours 0.5 g | - |
| | Eyes - Irritant | Rabbit | - | | - |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | Skin – Oedema | Rabbit | 0.39 | 4 hours 0.5 g | 24 to 72 hours |
| | Skin - Erythema/Eschar | Rabbit | 1 | 4 hours 0.5 g | 24 to 72 hours |
| | Eyes – Cornea opacity | Rabbit | 4 | 0.1g | 24 hours |
| | Eyes - Iris lesion | Rabbit | 2 | 0.1g | 24 hours |
| | Eyes - Redness of the conjunctivae | Rabbit | 3 | 0.1g | 24 hours |
| | Eyes - Oedema of the conjunctivae | Rabbit | 4 | 0.1g | 24 hours |

**Conclusion/Summary**

**Eyes** Not available.

**Skin** Not available.

**Respiratory** Not available.

**Sensitisation**

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Respiratory | Rat | Not sensitizing |
| | Skin | Mammal - species unspecified | Not sensitizing |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | Respiratory | Man | Sensitising |
| | Skin | Guinea pig | Sensitising |

**Conclusion/Summary**

**Skin** Not available.

**Respiratory** Not available.

**Mutagenicity**

| **Product/ingredient name** | **Test** | **Experiment** | **Result** |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | OECD 471 Bacterial Reverse Mutation Test | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: Without & with | Negative |
| | OECD 476 In vitro Mammalian Cell Gene Mutation Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |
| | OECD 473 In vitro Mammalian Chromosomal Aberration Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |

| | | | |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | OECD 471 Bacterial Reverse Mutation Test | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: Without & with | Negative |
| | OECD 473 In vitro Mammalian Chromosomal Aberration Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ<br>Metabolic activation: Without & with | Negative |
| | OECD 476 In vitro Mammalian Cell Gene Mutation Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ<br>Metabolic activation: Without & with | Negative |
| | OECD 473 In vitro Mammalian Chromosomal Aberration Test | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ<br>Metabolic activation: Without & with | Negative |

| | |
|---|---|
| **Conclusion/Summary** | Not available. |
| **Carcinogenicity** | |
| **Conclusion/Summary** | Not available. |
| **Reproductive toxicity** | |

| Product/ingredient name | Maternal | Fertility | Developmental | Species | Dose | Exposure |
|---|---|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | - | - | Negative | Rat - Female | Inhalation : 0.5 µg/ m³ ( NOEL ) | 6 hours per day |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | -<br>- | Negative<br>Negative | -<br>- | Rat<br>Guinea pig | Inhalation : 500 µg/ m³ / 6 hours per day (NOACE)<br>Inhalation : 500 µg/ m³ / 6 hours per day (NOACE | -<br>- |

| | |
|---|---|
| **Conclusion/Summary** | Not available. |
| **Teratogenicity** | |

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Negative - Inhalation | Rat - Female | 500 µg/m³ ( NOEL | 6 hours per day |

| | |
|---|---|
| **Conclusion/Summary** | Not available |
| **Specific target organ toxicity (single exposure)** | |

| **Product/ingredient name** | **Category** | **Route of exposure** | **Target organs** |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Category 3 | Not applicable | Respiratory tract irritation |

| | |
|---|---|
| **Specific target organ toxicity (repeated exposure)** | Not available. |
| **Aspiration hazard** | Not available. |
| **Potential acute health effects** | |
| Eye contact | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. |
| Inhalation | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| Skin contact | No known significant effects or critical hazards. |
| Ingestion | No known significant effects or critical hazards. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | |

| | |
|---|---|
| Eye contact | Adverse symptoms may include the following:<br>irritation<br>redness |
| Inhalation | Adverse symptoms may include the following:<br>respiratory tract irritation<br>Coughing |
| Skin contact | No specific data. |
| Ingestion | No specific data. |
| **Potential chronic health effects** | |

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Sub-acute NOEL Oral<br>Sub-chronic NOEL Inhalation Dusts and mists | Rat - Male, Female<br>Rat - Male, Female | 300 mg/kg /day<br>300 µg/m³ ( Highest tested dose | 4 weeks; 5 days per week<br>6 hours /day; 5 days per week |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | Sub-chronic NOAEL Oral<br>Sub-acute LOAEC Inhalation Dusts and mists | Rat - Male, Female<br>Rat - Male, Female | 10000 mg/kg /day ( Highest tested dose)<br>0.2 mg/m³ | -<br>6 hours /day; 5 days per week |

| | |
|---|---|
| Conclusion/Summary | Not available. |
| General | Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. |
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Teratogenicity | No known significant effects or critical hazards. |
| Developmental effects | No known significant effects or critical hazards. |
| Fertility effects | No known significant effects or critical hazards. |
| Classification | |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure | Effects |
|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | Acute EC0 >792 mg/l Fresh water<br>Acute LC0 >1000 mg/l Fresh water<br>Acute NOEC>739 mg/l Fresh water | Daphnia<br>Fish<br>Algae | 48 hours<br>96 hours<br>96 hours | Mobility<br>Mobility<br>(growth rate) |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | Acute EC50 >739 mg/l Fresh water<br>Acute EC50 >792 mg/l Fresh water<br>Acute EC0 >792 mg/l Fresh water | Algae<br>Daphnia<br>Fish | 96 hours<br>48 hours<br>96 hours | (growth rate)<br>Mobility<br>Mobility |
| **Conclusion/Summary** | Not available. | | | |

### 12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | OECD 301B Ready Biodegradability - CO2 Evolution Test | >60 % - 7 days | - | - |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | OECD 301B Ready Biodegradability - CO2 Evolution Test | 77.4 % - 28 days | - | - |
| **Conclusion/Summary** | Not available. | | | |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | - | - | Readily |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | - | - | Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|---|---|---|---|
| benzene-1,2,4-tricarboxylic acid | 0.95 | 3.2 | Low |
| benzene-1,2,4-tricarboxylic acid 1,2-anhydride | 0.06 | - | low |

| | |
|---|---|
| **12.4 Mobility in soil** | |
| **Soil/water partition coefficient (KOC)** | 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. |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| The information in this section contains generic advice and guidance. Reference number: 2008/98/EC. | |
| **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** | Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC. |
| **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. |
| **Special precautions** | This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. |

## 14. TRANSPORT REGULATIONS

| | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No | No | No | No |

| | |
|---|---|
| **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 Annex II of Marpol and the IBC Code** | Not available. |

## 15. REGULATIORY 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** | | | | |
| **Ingredient name** | **Intrinsic property** | **Status** | **Reference number** | **Date of revision** |
| Benzene-1,2,4-tricarboxylic acid 1, 2-anhydride; trimellitic anhydride | Substance of equivalent concern for human health | Candidate | - | 06/27/2018 |
| Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and | Not applicable. | | | |

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| articles. | | |
| Ozone depleting substances (1005/2009/EU) | Not listed. | |
| **Prior Informed Consent (PIC) (649/2012/EU)** | Not listed. | |
| **National regulations** | | |
| **International regulations** | | |
| **Chemical Weapon Convention List Schedules I, II & III Chemicals** | | |
| **Ingredient name** | **List name** | **Status** |
| **Not listed.** | | |
| **Montreal Protocol (Annexes A, B, C, E)** | | |
| **Ingredient name** | | **Status** |
| Not listed. | | |
| **Stockholm Convention on Persistent Organic Pollutants** | | |
| **Ingredient name** | **List name** | **Status** |
| Not listed. | | |
| **Rotterdam Convention on Prior Informed Consent (PIC)** | | |
| **Ingredient name** | **List name** | **Status** |
| Not listed. | | |
| **UNECE Aarhus Protocol on POPs and Heavy Metals** | | |
| **Ingredient name** | **List name** | **Status** |
| Not listed. | | |
| **15.2 Chemical safety assessment** | No Chemical Safety Assessment has been carried out. | |
| **Remarks** | Note: see section 8 for personal protective equipment and section 13 for waste disposal. | |
| **16. OTHER INFORMATION** | | |
| **Full text of abbreviated H statements** | | |
| H317<br>H318<br>H319<br>H334<br><br>H335 | May cause an allergic skin reaction.<br>Causes serious eye damage.<br>Causes serious eye irritation.<br>May cause allergy or asthma symptoms or breathing difficulties if inhaled.<br>May cause respiratory irritation. | |
| **Full text of classifications [CLP/GHS]** | | |
| Eye Dam. 1, H318<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>STOT SE 3, H335 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2<br>RESPIRATORY SENSITISATION - Category 1<br>SKIN SENSITISATION - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 | |
| **Abbreviations and acronyms** | ATE = Acute Toxicity Estimate<br>CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]<br>DMEL = Derived Minimal Effect Level<br>DNEL = Derived No Effect Level<br>EUH statement = CLP-specific Hazard statement<br>PBT = Persistent, Bioaccumulative and Toxic<br>PNEC = Predicted No Effect Concentration<br>RRN = REACH Registration Number<br>vPvB = Very Persistent and Very Bioaccumulative | |
| **Notice to reader** | The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.<br>The user is responsible for ensuring that appropriate precautions are | |

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| | taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert. |