

SAFETY DATA SHEET

Version #: 12

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

1.1. Product identifier

Trade name or designation of the mixture PhillyBond Orange Hardener

Registration number -

Synonyms None.

SKU# DM014H

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

Identified uses Not available.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Company Name ITW Performance Polymers

Address Bay 150
Shannon Industrial Estate
Co. Clare
Ireland
V14 DF82

Contact Person Customer Service

Telephone Number 353(61)771500
353(61)471285

Email customerservice.shannon@itwpp.com

Emergency Phone Number 44(0) 1235 239 670 (24 hours)

1.4. Emergency telephone number

General in EU 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Austria National Poisons Information Center +431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Belgium National Poisons Control Center 070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Bulgaria National Toxicological Information Center +359 2 9154 233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Croatia Poisons Information Center +385 1 2348 342 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Cyprus Poison Center 1401 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Czech Republic National Poisons Information Center +420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Denmark National Poisons Control Center +45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Estonia National Poisons Information Center 16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)

Finland National Poison Information Center (09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

France National Poisons Control Center ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

1.4. Emergency telephone number

| | |
|---|---|
| Greece Poison Information Centre | (0030) 2107793777 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Hungary National Emergency Phone Number | +36-80-201-199 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Iceland Poison Center | (+354) 543 2222 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Latvia Emergency medical aid | 113 |
| Latvia Poison and Drug Information Center | +371 67042473 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Lithuania Neatidėliotina informacija apsinuodijus | +370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.) |
| Malta Accident and Emergency Department | 2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.) |
| Netherlands National Poisons Information Center (NVIC) | NVIC: +31 (0)88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications) |
| Norway Norwegian Poison Information Center | 22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Portugal Poison Center | 800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Romania Biroul RSI si Informare Toxicologica | 021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.) |
| Slovakia National Toxicological Information Center | +421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Spain Toxicology Information Service | + 34 91 562 04 20 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Sweden National Poison Information Center | 112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Switzerland Tox Info Suisse | 145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

| | | |
|---|-------------|---|
| Acute toxicity, dermal | Category 4 | H312 - Harmful in contact with skin. |
| Skin corrosion/irritation | Category 1B | H314 - Causes severe skin burns and eye damage. |
| Serious eye damage/eye irritation | Category 1 | H318 - Causes serious eye damage. |
| Skin sensitization | Category 1 | H317 - May cause an allergic skin reaction. |
| Reproductive toxicity (fertility, the unborn child) | Category 2 | H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child. |

Environmental hazards

| | | |
|--|------------|---|
| Hazardous to the aquatic environment, acute aquatic hazard | Category 1 | H400 - Very toxic to aquatic life. |
| Hazardous to the aquatic environment, long-term aquatic hazard | Category 2 | H411 - Toxic to aquatic life with long lasting effects. |

2.2. Label elements

UFI:

Austria: NYD0-901F-T00G-QA3E
 Belgium: NYD0-901F-T00G-QA3E
 Bulgaria: NYD0-901F-T00G-QA3E
 Croatia: NYD0-901F-T00G-QA3E
 Cyprus: NYD0-901F-T00G-QA3E
 Czech Republic: NYD0-901F-T00G-QA3E
 Denmark: NYD0-901F-T00G-QA3E
 Estonia: NYD0-901F-T00G-QA3E
 EU: NYD0-901F-T00G-QA3E
 Finland: NYD0-901F-T00G-QA3E
 France: NYD0-901F-T00G-QA3E
 Germany: NYD0-901F-T00G-QA3E
 Greece: NYD0-901F-T00G-QA3E
 Hungary: NYD0-901F-T00G-QA3E
 Iceland: NYD0-901F-T00G-QA3E
 Ireland: NYD0-901F-T00G-QA3E
 Italy: NYD0-901F-T00G-QA3E
 Latvia: NYD0-901F-T00G-QA3E
 Lithuania: NYD0-901F-T00G-QA3E
 Luxembourg: NYD0-901F-T00G-QA3E
 Malta: NYD0-901F-T00G-QA3E
 Netherlands: NYD0-901F-T00G-QA3E
 Norway: NYD0-901F-T00G-QA3E
 Poland: NYD0-901F-T00G-QA3E
 Portugal: NYD0-901F-T00G-QA3E
 Romania: NYD0-901F-T00G-QA3E
 Slovakia: NYD0-901F-T00G-QA3E
 Slovenia: NYD0-901F-T00G-QA3E
 Spain: NYD0-901F-T00G-QA3E
 Sweden: NYD0-901F-T00G-QA3E

Contains:

1,3-Benzenedimethanamine, 4-tert-butylphenol, benzyl alcohol, Formaldehyde, Polymer With Benzenamine, Hydrogenated, nonylphenol; [1] 4-nonylphenol, branched [2], nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE

Hazard pictograms



Signal word

Danger

Hazard statements

| | |
|--------|--|
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

Prevention

| | |
|------|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P260 | Do not breathe vapor. |
| P264 | Wash thoroughly after handling. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |

Response

| | |
|--------------------|--|
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |

Storage

P405

Store locked up.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

22,48% of the mixture consists of component(s) of unknown acute oral toxicity. 42,6% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****General information**

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|---|---------|-------------------------|------------------------|--------------|-------|
| Formaldehyde, Polymer With Benzenamine, Hydrogenated | 10 - 30 | 135108-88-2 | - | - | |
| Classification: - | | | | | |
| nonylphenol; [1] 4-nonylphenol, branched [2] | 10 - 30 | 84852-15-3 284-325-5 | 01-2119510715-45-0000 | 601-053-00-8 | ED |
| Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Skin Corr. 1B;H314, Eye Dam. 1;H318, Repr. 2;H361fd, Aquatic Acute 1;H400, Aquatic Chronic 1;H410 | | | | | |
| 4-tert-butylphenol | 5 - 10 | 98-54-4 202-679-0 | - | 604-090-00-8 | ED |
| Classification: Skin Irrit. 2;H315, Eye Dam. 1;H318, Repr. 2;H361f, Aquatic Chronic 1;H410(M=1), Aquatic Chronic 2;H411(M=1) | | | | | |
| benzyl alcohol | 5 - 10 | 100-51-6 202-859-9 | 01-2119492630-38-0000 | 603-057-00-5 | |
| Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Acute Tox. 4;H312;(ATE: 2000 mg/kg bw), Acute Tox. 4;H332;(ATE: 11 mg/l), Aquatic Chronic 2;H411 | | | | | |
| 1,3-Benzenedimethanamine | 1 - 5 | 1477-55-0 216-032-5 | 01-2119480150-50-0000 | - | |
| Classification: - | | | | | |
| TRIMETHYLHEXAMETHYLENEDIAMINE | 1 - 5 | 25620-58-0 247-134-8 | - | - | |
| Classification: Skin Corr. 1C;H314, Eye Dam. 1;H318 | | | | | |
| nonylphenol; [1] 4-nonylphenol, branched [2] | 0,1 - 1 | 25154-52-3 246-672-0 | - | 601-053-00-8 | ED |
| Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Skin Corr. 1B;H314, Eye Dam. 1;H318, Repr. 2;H361fd, Aquatic Acute 1;H400, Aquatic Chronic 1;H410 | | | | | |
| Other components below reportable levels | 30 - 60 | | | | |

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Union workplace exposure limit(s).

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures**General information**

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Chemical burns must be treated by a physician. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

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| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. |
| Ingestion | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| 4.2. Most important symptoms and effects, both acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
| 4.3. Indication of any immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |

SECTION 5: Firefighting measures

| | |
|---|---|
| General fire hazards | No unusual fire or explosion hazards noted. |
| 5.1. Extinguishing media | |
| Suitable extinguishing media | Alcohol resistant foam. Powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| 5.2. Special hazards arising from the substance or mixture | During fire, gases hazardous to health may be formed. |
| 5.3. Advice for firefighters | |
| Special protective equipment for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Special fire fighting procedures | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |

SECTION 6: Accidental release measures

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|---|--|
| 6.1. Personal precautions, protective equipment and emergency procedures | |
| For non-emergency personnel | Do not breathe vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. |
| For emergency responders | Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS. |
| 6.2. Environmental precautions | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |
| 6.3. Methods and material for containment and cleaning up | Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. |
| 6.4. Reference to other sections | For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS. |

SECTION 7: Handling and storage

| | |
|---|--|
| 7.1. Precautions for safe handling | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapor. Do not get in eyes, on skin, or on clothing. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices. |
|---|--|

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tons; Upper-tier requirements = 200 tons)

- E2 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 200 tons; Upper-tier requirements = 500 tons)

7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended

| Components | Type | Value | Form |
|--|---------|-----------|---------------------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 | |
| | MAK | 0,1 mg/m3 | |
| 4-tert-butylphenol (CAS 98-54-4) | MAK | 0,5 mg/m3 | |
| | | 0,08 ppm | |
| | STEL | 2,5 mg/m3 | |
| | | 0,4 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | MAK | 4 mg/m3 | Inhalable fraction. |

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended

| Components | Type | Value |
|--|---------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 |

Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

| Components | Type | Value | Form |
|-----------------------------------|------|------------|----------------------|
| benzyl alcohol (CAS 100-51-6) | TWA | 5 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 10 mg/m3 | Inhalable fraction. |
| | | 0,07 mg/m3 | Respirable fraction. |

Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| Silicon Dioxide (CAS 112945-52-5) | MAC | 6 mg/m3 | Total dust. |
| | | 0,1 mg/m3 | Respirable dust. |

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended

| Components | Type | Value |
|-----------------------------------|------|---------|
| Silicon Dioxide (CAS 112945-52-5) | TWA | 2 mg/m3 |

Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

| Components | Type | Value | Form |
|-----------------------------------|---------|----------|-------|
| benzyl alcohol (CAS 100-51-6) | Ceiling | 80 mg/m3 | |
| | TWA | 40 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Dust. |

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

| Components | Type | Value |
|--|---------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 |
| | | 0,02 ppm |
| 4-tert-butylphenol (CAS 98-54-4) | TLV | 0,5 mg/m3 |
| | | 0,08 ppm |

Estonia

| Components | Type | Value | Form |
|-----------------------------------|------|---------|---------------------------------|
| Silicon Dioxide (CAS 112945-52-5) | TWA | 2 mg/m3 | Fine dust, respiratory fraction |

Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health

| Components | Type | Value |
|--|---------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 |
| benzyl alcohol (CAS 100-51-6) | TWA | 45 mg/m3 |
| | | 10 ppm |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 5 mg/m3 |

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

| Components | Type | Value |
|--|------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | VLE | 0,1 mg/m3 |

Regulatory status: Indicative limit (VL)

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG), as updated

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|---------------------|
| 4-tert-butylphenol (CAS 98-54-4) | TWA | 0,5 mg/m3 | Vapor and aerosol. |
| | | 0,08 ppm | Vapor and aerosol. |
| benzyl alcohol (CAS 100-51-6) | TWA | 22 mg/m3 | Vapor and aerosol. |
| | | 5 ppm | Vapor and aerosol. |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Inhalable fraction. |

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|---------------------|
| 4-tert-butylphenol (CAS 98-54-4) | AGW | 0,5 mg/m3 | Vapor and aerosol. |
| | | 0,08 ppm | Vapor and aerosol. |
| benzyl alcohol (CAS 100-51-6) | AGW | 22 mg/m3 | Vapor and aerosol. |
| | | 5 ppm | Vapor and aerosol. |
| Silicon Dioxide (CAS 112945-52-5) | AGW | 4 mg/m3 | Inhalable fraction. |

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

| Components | Type | Value | Form |
|--|------|-----------|------------------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | STEL | 0,1 mg/m3 | |
| | | 0,02 ppm | |
| 4-tert-butylphenol (CAS 98-54-4) | TWA | 0,5 mg/m3 | |
| | | 0,08 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 5 mg/m3 | Respirable dust. |

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

| Components | Type | Value | Form |
|------------|------|-----------|-------------|
| | | 10 mg/m3 | Total dust. |
| | | 0,5 mg/m3 | Dust. |

Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations

| Components | Type | Value | Form |
|--|------|-----------|-----------------------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | TWA | 0,1 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 6 mg/m3 | Total inhalable dust. |
| | | 2,4 mg/m3 | Respirable dust. |

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

| Components | Type | Value |
|--|---------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,018 ppm |

Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended

| Components | Type | Value |
|-----------------------------------|------|---------|
| benzyl alcohol (CAS 100-51-6) | TWA | 5 mg/m3 |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 1 mg/m3 |

Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended

| Components | Type | Value |
|-------------------------------|------|---------|
| benzyl alcohol (CAS 100-51-6) | TWA | 5 mg/m3 |

Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended

| Components | Type | Value | Form |
|--|---------|-----------|------------------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TLV | 1,5 mg/m3 | Respirable dust. |

Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)

| Components | Type | Value |
|-------------------------------|------|-----------|
| benzyl alcohol (CAS 100-51-6) | TWA | 240 mg/m3 |

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

| Components | Type | Value |
|--|---------|-----------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | Ceiling | 0,1 mg/m3 |

Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)

| Components | Type | Value |
|-----------------------------------|------|-----------|
| 4-tert-butylphenol (CAS 98-54-4) | TWA | 0,5 mg/m3 |
| | | 0,08 ppm |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 0,3 mg/m3 |

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended

| Components | Type | Value | Form |
|----------------------------------|------|-----------|------|
| 4-tert-butylphenol (CAS 98-54-4) | TWA | 0,5 mg/m3 | |
| | | 0,08 ppm | |

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended

| Components | Type | Value | Form |
|-----------------------------------|------|----------|---------------------|
| benzyl alcohol (CAS 100-51-6) | TWA | 22 mg/m3 | |
| | | 5 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Inhalable fraction. |

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

| Components | Type | Value | Form |
|--|------|-----------|--------------------|
| 1,3-Benzenedimethanamine (CAS 1477-55-0) | TWA | 0,1 mg/m3 | |
| 4-tert-butylphenol (CAS 98-54-4) | STEL | 1 mg/m3 | Vapor and aerosol. |
| | | 0,16 ppm | Vapor and aerosol. |
| | TWA | 0,5 mg/m3 | Vapor and aerosol. |
| | | 0,08 ppm | Vapor and aerosol. |
| benzyl alcohol (CAS 100-51-6) | TWA | 22 mg/m3 | Vapor and aerosol. |
| | | 5 ppm | Vapor and aerosol. |

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| Silicon Dioxide (CAS 112945-52-5) | TWA | 6 mg/m3 | Inhalable dust. |
| | | 2,4 mg/m3 | Respirable dust. |

Biological limit values

Croatia. BELs (BGV). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and BELs, Annex IV (NN 91/2018), as amended

| Components | Value | Determinant | Specimen | Sampling Time |
|----------------------------------|-------------|-------------|----------|---------------|
| 4-tert-butylphenol (CAS 98-54-4) | 2 mg/l | PTBP | Urine | * |
| | 13,3 umol/l | PTBP | Urine | * |

* - For sampling details, please see the source document.

Germany. TRGS 903, BAT List (Biological Limit Values)

| Components | Value | Determinant | Specimen | Sampling Time |
|----------------------------------|--------|-----------------------|----------|---------------|
| 4-tert-butylphenol (CAS 98-54-4) | 2 mg/l | PTBP (nach Hydrolyse) | Urine | * |

* - For sampling details, please see the source document.

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

| Components | Value | Determinant | Specimen | Sampling Time |
|----------------------------------|-----------|--------------------|---------------------|---------------|
| 4-tert-butylphenol (CAS 98-54-4) | 1,36 mg/g | p-tert-butylphenol | Creatinine in urine | * |
| | 2 mg/l | p-tert-butylphenol | Urine | * |

* - For sampling details, please see the source document.

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle BAT-Werte

| Components | Value | Determinant | Specimen | Sampling Time |
|----------------------------------|--------|--------------------|----------|---------------|
| 4-tert-butylphenol (CAS 98-54-4) | 2 mg/l | p-tert-Butylphenol | Urine | * |

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product.

Austria MAK: Skin designation

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

Belgium OELs: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

Denmark GV: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

Finland Exposure Limit Values: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

benzyl alcohol (CAS 100-51-6)

Can be absorbed through the skin.

Germany TRGS 900 Limit Values: Skin designation

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

benzyl alcohol (CAS 100-51-6)

Can be absorbed through the skin.

Iceland OELs: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

Italy OELs: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Danger of cutaneous absorption

Lithuania OELs: Skin designation

benzyl alcohol (CAS 100-51-6)

Can be absorbed through the skin.

Portugal VLEs Norm on Occupational Exposure: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

4-tert-butylphenol (CAS 98-54-4)

Can be absorbed through the skin.

benzyl alcohol (CAS 100-51-6)

Can be absorbed through the skin.

Switzerland SUVA Limit Values at the Workplace: Skin designation

1,3-Benzenedimethanamine (CAS 1477-55-0)

Can be absorbed through the skin.

benzyl alcohol (CAS 100-51-6)

Can be absorbed through the skin.

8.2. Exposure controls**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**General information**

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**- Hand protection**

Wear appropriate chemical resistant gloves.

- Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

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

Not available.

Form

Paste.

| | |
|--|----------------------|
| Color | Amber |
| Odor | Ammoniacal. |
| Melting point/freezing point | Not available. |
| Boiling point or initial boiling point and boiling range | Not available. |
| Flammability | Not available. |
| Flash point | >200,0 °F (>93,3 °C) |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| pH | Not available. |
| Kinematic viscosity | Not available. |

Solubility

| | |
|---|----------------|
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) (log value) | Not available. |
| Vapor pressure | Not available. |

Density and/or relative density

| | |
|---------------|-------------|
| Density | 8,81 lb/gal |
| Vapor density | >1 |

| | |
|--------------------------|----------------|
| Particle characteristics | Not available. |
|--------------------------|----------------|

9.2. Other information

| | |
|---|---|
| 9.2.1. Information with regard to physical hazard classes | No relevant additional information available. |
|---|---|

9.2.2. Other safety characteristics

| | |
|------------------|---------|
| Evaporation rate | <1 BuAc |
| Specific gravity | 1,06 |

SECTION 10: Stability and reactivity

| | |
|--|---|
| 10.1. Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| 10.2. Chemical stability | Material is stable under normal conditions. |
| 10.3. Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| 10.4. Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| 10.5. Incompatible materials | Alkaline metals. |
| 10.6. Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11: Toxicological information

| | |
|---------------------|--|
| General information | Occupational exposure to the substance or mixture may cause adverse effects. |
|---------------------|--|

Information on likely routes of exposure

| | |
|--------------|--|
| Inhalation | May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns. Harmful in contact with skin. May cause an allergic skin reaction. |
| Eye contact | Causes serious eye damage. |
| Ingestion | Causes digestive tract burns. |

| | |
|----------|---|
| Symptoms | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
|----------|---|

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

| | |
|----------------|-------------------------------|
| Acute toxicity | Harmful in contact with skin. |
|----------------|-------------------------------|

| Components | Species | Test Results |
|-------------------------------|---------|--------------|
| benzyl alcohol (CAS 100-51-6) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 2000 mg/kg |

| Components | Species | Test Results |
|---|--|--------------|
| nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 2140 mg/kg |
| nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 2140 mg/kg |
| Skin corrosion/irritation | Causes severe skin burns and eye damage. | |
| Serious eye damage/eye irritation | Causes serious eye damage. | |
| Respiratory sensitization | Due to partial or complete lack of data the classification is not possible. | |
| Skin sensitization | May cause an allergic skin reaction. | |
| Germ cell mutagenicity | Due to partial or complete lack of data the classification is not possible. | |
| Carcinogenicity | Due to partial or complete lack of data the classification is not possible. | |
| Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended) | | |
| 4-tert-butylphenol (CAS 98-54-4) | | |
| nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3) | | |
| nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3) | | |
| Reproductive toxicity | Suspected of damaging fertility. Suspected of damaging the unborn child. | |
| Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia) | | |
| 4-tert-butylphenol (CAS 98-54-4) | | |
| Toxic for reproduction - category 2. | | |
| Specific target organ toxicity - single exposure | Due to partial or complete lack of data the classification is not possible. | |
| Specific target organ toxicity - repeated exposure | Due to partial or complete lack of data the classification is not possible. | |
| Aspiration hazard | Due to partial or complete lack of data the classification is not possible. | |
| Mixture versus substance information | No information available. | |
| 11.2. Information on other hazards | | |
| Endocrine disrupting properties | This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight. | |
| Other information | Not available. | |
| SECTION 12: Ecological information | | |
| 12.1. Toxicity | Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. | |
| 12.2. Persistence and degradability | No data is available on the degradability of any ingredients in the mixture. | |
| 12.3. Bioaccumulative potential | | |
| Partition coefficient n-octanol/water (log Kow) | | |
| benzyl alcohol | 1,1 | |
| nonylphenol; [1] 4-nonylphenol, branched [2] | 5,71 | |
| Bioconcentration factor (BCF) | Not available. | |
| 12.4. Mobility in soil | No data available. | |
| 12.5. Results of PBT and vPvB assessment | This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. | |
| 12.6. Endocrine disrupting properties | This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight. | |
| 12.7. Other adverse effects | The product contains volatile organic compounds which have a photochemical ozone creation potential. | |

12.8. Additional information

Estonia Dangerous substances in soil Data

benzyl alcohol (CAS 100-51-6)

Chemical pesticides (As the total sum of the active substances)
0,5 MG/KG

Chemical pesticides (As the total sum of the active substances) 20
MG/KG

Chemical pesticides (As the total sum of the active substances) 5
MG/KG

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------------|--|
| Residual waste | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| EU waste code | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Disposal methods/information | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Special precautions | Dispose in accordance with all applicable regulations. |

SECTION 14: Transport information

ADR

| | |
|---|--|
| 14.1. UN number | UN2735 |
| 14.2. UN proper shipping name | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE) |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| Hazard No. (ADR) | 80 |
| Tunnel restriction code | E |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

RID

| | |
|---|--|
| 14.1. UN number | UN2735 |
| 14.2. UN proper shipping name | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE) |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | Yes |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

ADN

| | |
|---|--|
| 14.1. UN number | UN2735 |
| 14.2. UN proper shipping name | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE) |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

IATA

| | |
|------------------------------------|---|
| 14.1. UN number | UN2735 |
| 14.2. UN proper shipping name | Amines, liquid, corrosive, n.o.s. (nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE) |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | Yes |
| ERG Code | 8L |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

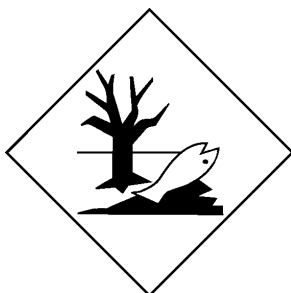
IMDG

| | |
|---|---|
| 14.1. UN number | UN2735 |
| 14.2. UN proper shipping name | Amines, liquid, corrosive, n.o.s. (nonylphenol; [1] 4-nonylphenol, branched [2], TRIMETHYLHEXAMETHYLENEDIAMINE), MARINE POLLUTANT |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | |
| Marine pollutant | Yes |
| EmS | F-A, S-B |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| 14.7. Maritime transport in bulk according to IMO instruments | Not applicable. Not established. |

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3)

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3)

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3)

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3)

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3)

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3)

4-tert-butylphenol (CAS 98-54-4)

UFI:

Austria: NYD0-901F-T00G-QA3E
Belgium: NYD0-901F-T00G-QA3E
Bulgaria: NYD0-901F-T00G-QA3E
Croatia: NYD0-901F-T00G-QA3E
Cyprus: NYD0-901F-T00G-QA3E
Czech Republic: NYD0-901F-T00G-QA3E
Denmark: NYD0-901F-T00G-QA3E
Estonia: NYD0-901F-T00G-QA3E
EU: NYD0-901F-T00G-QA3E
Finland: NYD0-901F-T00G-QA3E
France: NYD0-901F-T00G-QA3E
Germany: NYD0-901F-T00G-QA3E
Greece: NYD0-901F-T00G-QA3E
Hungary: NYD0-901F-T00G-QA3E
Iceland: NYD0-901F-T00G-QA3E
Ireland: NYD0-901F-T00G-QA3E
Italy: NYD0-901F-T00G-QA3E
Latvia: NYD0-901F-T00G-QA3E
Lithuania: NYD0-901F-T00G-QA3E
Luxembourg: NYD0-901F-T00G-QA3E
Malta: NYD0-901F-T00G-QA3E
Netherlands: NYD0-901F-T00G-QA3E
Norway: NYD0-901F-T00G-QA3E
Poland: NYD0-901F-T00G-QA3E
Portugal: NYD0-901F-T00G-QA3E
Romania: NYD0-901F-T00G-QA3E
Slovakia: NYD0-901F-T00G-QA3E
Slovenia: NYD0-901F-T00G-QA3E
Spain: NYD0-901F-T00G-QA3E
Sweden: NYD0-901F-T00G-QA3E

Authorizations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended

- Conditions of restriction given for the associated entry number should be considered

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

4-tert-butylphenol (CAS 98-54-4)

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 25154-52-3)

nonylphenol; [1] 4-nonylphenol, branched [2] (CAS 84852-15-3)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008
- E1 Hazardous to the Aquatic Environment Acute
- E2 Hazardous to the Aquatic Environment Chronic

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

France regulations

France INRS Table of Occupational Diseases

Not regulated.

Product registration number

| | |
|-----------------------|--------------------------|
| Austria | UFI: NYD0-901F-T00G-QA3E |
| Belgium | UFI: NYD0-901F-T00G-QA3E |
| Czech Republic | UFI: NYD0-901F-T00G-QA3E |
| Denmark | UFI: NYD0-901F-T00G-QA3E |
| European Union | UFI: NYD0-901F-T00G-QA3E |
| Finland | UFI: NYD0-901F-T00G-QA3E |
| France | UFI: NYD0-901F-T00G-QA3E |
| Germany | UFI: NYD0-901F-T00G-QA3E |
| Greece | UFI: NYD0-901F-T00G-QA3E |
| Hungary | UFI: NYD0-901F-T00G-QA3E |
| Italy | UFI: NYD0-901F-T00G-QA3E |
| Netherlands | UFI: NYD0-901F-T00G-QA3E |
| Norway | UFI: NYD0-901F-T00G-QA3E |
| Poland | UFI: NYD0-901F-T00G-QA3E |
| Portugal | UFI: NYD0-901F-T00G-QA3E |
| Slovakia | UFI: NYD0-901F-T00G-QA3E |
| Slovenia | UFI: NYD0-901F-T00G-QA3E |
| Spain | UFI: NYD0-901F-T00G-QA3E |
| Sweden | UFI: NYD0-901F-T00G-QA3E |
| Switzerland | UFI: NYD0-901F-T00G-QA3E |

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.

Revision information**Training information****Disclaimer**

H361f Suspected of damaging fertility.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

Physical & Chemical Properties: Multiple Properties

Follow training instructions when handling this material.

ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.

SAFETY DATA SHEET

Version #: 12

Issue date: 06-24-2013

Revision date: 07-27-2023

Supersedes date: 07-03-2023

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

1.1. Product identifier

Trade name or designation of the mixture Phillybond Orange Resin

Registration number -

Synonyms None.

SKU# DM014R

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

Identified uses Not available.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Company Name ITW Performance Polymers

Address Bay 150
Shannon Industrial Estate
Co. Clare
Ireland
V14 DF82

Contact Person Customer Service

Telephone Number 353(61)771500
353(61)471285

Email customerservice.shannon@itwpp.com

Emergency Phone Number 44(0) 1235 239 670 (24 hours)

1.4. Emergency telephone number

General in EU 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Austria National Poisons Information Center +431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Belgium National Poisons Control Center 070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Bulgaria National Toxicological Information Center +359 2 9154 233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Croatia Poisons Information Center +385 1 2348 342 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Cyprus Poison Center 1401 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Czech Republic National Poisons Information Center +420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

Denmark National Poisons Control Center +45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Estonia National Poisons Information Center 16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)

Finland National Poison Information Center (09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

France National Poisons Control Center ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

1.4. Emergency telephone number

| | |
|---|---|
| Greece Poison Information Centre | (0030) 2107793777 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Hungary National Emergency Phone Number | +36-80-201-199 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Iceland Poison Center | (+354) 543 2222 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Latvia Emergency medical aid | 113 |
| Latvia Poison and Drug Information Center | +371 67042473 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Lithuania Neatidėliotina informacija apsinuodijus | +370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.) |
| Malta Accident and Emergency Department | 2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.) |
| Netherlands National Poisons Information Center (NVIC) | NVIC: +31 (0)88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications) |
| Norway Norwegian Poison Information Center | 22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Portugal Poison Center | 800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Romania Biroul RSI si Informare Toxicologica | 021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.) |
| Slovakia National Toxicological Information Center | +421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Spain Toxicology Information Service | + 34 91 562 04 20 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Sweden National Poison Information Center | 112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |
| Switzerland Tox Info Suisse | 145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.) |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

| | | |
|-----------------------------------|------------|---|
| Acute toxicity, dermal | Category 4 | H312 - Harmful in contact with skin. |
| Skin corrosion/irritation | Category 2 | H315 - Causes skin irritation. |
| Serious eye damage/eye irritation | Category 2 | H319 - Causes serious eye irritation. |
| Skin sensitization | Category 1 | H317 - May cause an allergic skin reaction. |

Environmental hazards

| | | |
|--|------------|---|
| Hazardous to the aquatic environment, long-term aquatic hazard | Category 2 | H411 - Toxic to aquatic life with long lasting effects. |
|--|------------|---|

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended**UFI:**

Austria: TWD0-S0C2-G00Y-1YHC
Belgium: TWD0-S0C2-G00Y-1YHC
Bulgaria: TWD0-S0C2-G00Y-1YHC
Croatia: TWD0-S0C2-G00Y-1YHC
Cyprus: TWD0-S0C2-G00Y-1YHC
Czech Republic: TWD0-S0C2-G00Y-1YHC
Denmark: TWD0-S0C2-G00Y-1YHC
Estonia: TWD0-S0C2-G00Y-1YHC
EU: TWD0-S0C2-G00Y-1YHC
Finland: TWD0-S0C2-G00Y-1YHC
France: TWD0-S0C2-G00Y-1YHC
Germany: TWD0-S0C2-G00Y-1YHC
Greece: TWD0-S0C2-G00Y-1YHC
Hungary: TWD0-S0C2-G00Y-1YHC
Iceland: TWD0-S0C2-G00Y-1YHC
Ireland: TWD0-S0C2-G00Y-1YHC
Italy: TWD0-S0C2-G00Y-1YHC
Latvia: TWD0-S0C2-G00Y-1YHC
Lithuania: TWD0-S0C2-G00Y-1YHC
Luxembourg: TWD0-S0C2-G00Y-1YHC
Malta: TWD0-S0C2-G00Y-1YHC
Netherlands: TWD0-S0C2-G00Y-1YHC
Norway: TWD0-S0C2-G00Y-1YHC
Poland: TWD0-S0C2-G00Y-1YHC
Portugal: TWD0-S0C2-G00Y-1YHC
Romania: TWD0-S0C2-G00Y-1YHC
Slovakia: TWD0-S0C2-G00Y-1YHC
Slovenia: TWD0-S0C2-G00Y-1YHC
Spain: TWD0-S0C2-G00Y-1YHC
Sweden: TWD0-S0C2-G00Y-1YHC

Contains:

2-propenenitrile Polymer With 1,3-butadiene, Carboxy-terminated Reaction Products With Epichlorohydrin-2,2'-methylenebis[phenol] Polymer, Butyrolactone, ethylbenzene, Phenol Polymer With Formaldehyde, Glycidyl Ether, Silicon Dioxide

Hazard pictograms**Signal word**

Warning

Hazard statements

| | |
|------|--|
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements**Prevention**

| | |
|------|--|
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash thoroughly after handling. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear eye protection/face protection. |
| P280 | Wear protective gloves/protective clothing. |

Response

| | |
|--------------------|--|
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |

Storage

Not available.

Disposal

| | |
|------|---|
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
|------|---|

Supplemental label information

78,99% of the mixture consists of component(s) of unknown acute oral toxicity. 95,98% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|--|----------|--------------------------|------------------------|--------------|-------|
| Phenol Polymer With Formaldehyde, Glycidyl Ether | 60 - 100 | 28064-14-4 - | - | - | |
| Classification: - | | | | | |
| 2-propenenitrile Polymer With 1,3-butadiene, Carboxy-terminated Reaction Products With Epichlorohydrin-2,2'-methylenebis[phenol] Polymer | 10 - 30 | 68610-73-1 - | - | - | |
| Classification: - | | | | | |
| Butyrolactone | 5 - 10 | 96-48-0 202-509-5 | - | - | |
| Classification: Acute Tox. 4;H302;(ATE: 1540 mg/kg bw), Acute Tox. 3;H331;(ATE: 2,6800000000000002 mg/l), Eye Irrit. 2;H319 | | | | | |
| Silicon Dioxide | 5 - 10 | 112945-52-5 231-545-4 | - | - | |
| Classification: - | | | | | |
| ethylbenzene | 0,1 - 1 | 100-41-4 202-849-4 | - | 601-023-00-4 | # |
| Classification: Flam. Liq. 2;H225, Acute Tox. 4;H332;(ATE: 11 mg/l), Carc. 2;H351, STOT RE 2;H373, Asp. Tox. 1;H304, Aquatic Chronic 2;H411 | | | | | |
| Other components below reportable levels | 1 - 5 | | | | |

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Union workplace exposure limit(s).

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

| | |
|---|--|
| 5.1. Extinguishing media | |
| Suitable extinguishing media | Alcohol resistant foam. Powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| 5.2. Special hazards arising from the substance or mixture | During fire, gases hazardous to health may be formed. |
| 5.3. Advice for firefighters | |
| Special protective equipment for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Special fire fighting procedures | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| SECTION 6: Accidental release measures | |
| 6.1. Personal precautions, protective equipment and emergency procedures | |
| For non-emergency personnel | Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. |
| For emergency responders | Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS. |
| 6.2. Environmental precautions | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |
| 6.3. Methods and material for containment and cleaning up | Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. |
| 6.4. Reference to other sections | For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS. |

SECTION 7: Handling and storage

| | |
|--|---|
| 7.1. Precautions for safe handling | Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices. |
| 7.2. Conditions for safe storage, including any incompatibilities | Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended ANNEX 1, PART 1 Categories of dangerous substances Hazard categories in accordance with Regulation (EC) No 1272/2008 - E2 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 200 tons; Upper-tier requirements = 500 tons) |
| 7.3. Specific end use(s) | Observe industrial sector guidance on best practices. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended

| Components | Type | Value | Form |
|-----------------------------------|---------|-----------|---------------------|
| ethylbenzene (CAS 100-41-4) | Ceiling | 880 mg/m3 | |
| | | 200 ppm | |
| | MAK | 440 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | | 100 ppm | |
| | MAK | 4 mg/m3 | Inhalable fraction. |

Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1 - Chemical agents, as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 551 mg/m3 |
| | | 125 ppm |
| | TWA | 87 mg/m3 |
| | | 20 ppm |

Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

| Components | Type | Value | Form |
|-----------------------------------|------|------------|----------------------|
| ethylbenzene (CAS 100-41-4) | STEL | 545 mg/m3 | |
| | TWA | 435 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 10 mg/m3 | Inhalable fraction. |
| | | 0,07 mg/m3 | Respirable fraction. |

Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| ethylbenzene (CAS 100-41-4) | MAC | 442 mg/m3 | |
| | | 100 ppm | |
| | STEL | 884 mg/m3 | |
| | | 200 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | MAC | 6 mg/m3 | Total dust. |
| | | 0,1 mg/m3 | Respirable dust. |

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended

| Components | Type | Value |
|-----------------------------------|------|---------|
| Silicon Dioxide (CAS 112945-52-5) | TWA | 2 mg/m3 |

Cyprus. OELs. Occupational Exposure Limit Values of Chemicals at Work (Safety and Health at Work (Chem. Agents) Reg., Ann. 1, R.A.A. 268/2001, as amended)

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

| Components | Type | Value | Form |
|-----------------------------------|---------|-----------|-------|
| ethylbenzene (CAS 100-41-4) | Ceiling | 500 mg/m3 | |
| | TWA | 200 mg/m3 | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Dust. |

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | TLV | 217 mg/m3 |
| | | 50 ppm |

| Estonia | | | |
|--|---|------------|---------------------------------|
| Components | Type | Value | Form |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 2 mg/m3 | Fine dust, respiratory fraction |
| Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended | | | |
| Components | Type | Value | |
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 | |
| | | 200 ppm | |
| | TWA | 442 mg/m3 | |
| | | 100 ppm | |
| Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health | | | |
| Components | Type | Value | |
| Butyrolactone (CAS 96-48-0) | STEL | 70 mg/m3 | |
| | | 250 ppm | |
| | TWA | 14 mg/m3 | |
| 50 ppm | | | |
| ethylbenzene (CAS 100-41-4) | STEL | 880 mg/m3 | |
| | | 200 ppm | |
| | TWA | 220 mg/m3 | |
| | | 50 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 5 mg/m3 | |
| | | | |
| France. OELs. Occupational Exposure Limits as Prescribed by Art. R.4412-149 of Labor Code, as amended | | | |
| Components | Type | Value | |
| ethylbenzene (CAS 100-41-4) | VLE | 442 mg/m3 | |
| | | 100 ppm | |
| | VME | 88,4 mg/m3 | |
| | | 20 ppm | |
| France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984 | | | |
| Components | Type | Value | |
| ethylbenzene (CAS 100-41-4) | VLE | 442 mg/m3 | |
| | | 100 ppm | |
| | VME | 88,4 mg/m3 | |
| | | 20 ppm | |
| | Regulatory status: Regulatory binding (VRC) | | |
| | | | |
| | | | |
| Regulatory status: Regulatory binding (VRC) | | | |
| | | | |
| | | | |
| Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG), as updated | | | |
| Components | Type | Value | Form |
| ethylbenzene (CAS 100-41-4) | TWA | 88 mg/m3 | |
| | | 20 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Inhalable fraction. |
| Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace | | | |
| Components | Type | Value | Form |
| ethylbenzene (CAS 100-41-4) | AGW | 88 mg/m3 | |
| | | 20 ppm | |

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

| Components | Type | Value | Form |
|-----------------------------------|------|---------|---------------------|
| Silicon Dioxide (CAS 112945-52-5) | AGW | 4 mg/m3 | Inhalable fraction. |

Greece. OELs, Presidential Decree No. 307/1986, as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 545 mg/m3 |
| | | 125 ppm |
| | TWA | 435 mg/m3 |
| | | 100 ppm |

Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | TWA | 442 mg/m3 |

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 | |
| | | 200 ppm | |
| | TWA | 200 mg/m3 | |
| | | 50 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 5 mg/m3 | Respirable dust. |
| | | 10 mg/m3 | Total dust. |
| | | 0,5 mg/m3 | Dust. |

Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|-----------------------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 | |
| | | 200 ppm | |
| | TWA | 442 mg/m3 | |
| | | 100 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 6 mg/m3 | Total inhalable dust. |
| | | 2,4 mg/m3 | Respirable dust. |

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended

| Components | Type | Value |
|-----------------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 1 mg/m3 |

Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Luxembourg. OELs. Binding Occupational Exposure Limit Values (Annex I), G.D.R. of 14 November 2016, OJ Memorial A, n ° 235/2016, as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Malta. OELs. Protection of Health and Safety of Workers from Risks related to Chemical Agents at Work (L.N 227/2003 Schedules I and V), as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Netherlands. OELs per Annex XIII of Working Conditions Regulation (Staatscourant no. 252, 29 December 2006), as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 430 mg/m3 |
| | TWA | 215 mg/m3 |

Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| ethylbenzene (CAS 100-41-4) | TLV | 20 mg/m3 | |
| | | 5 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TLV | 1,5 mg/m3 | Respirable dust. |

Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 400 mg/m3 |
| | TWA | 200 mg/m3 |

Portugal. Decree-Law No. 24/2012, Occupational Exposure Limit Values, Annex II, as amended

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

| Components | Type | Value |
|-----------------------------|------|--------|
| ethylbenzene (CAS 100-41-4) | TWA | 20 ppm |

Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)

| Components | Type | Value |
|-----------------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 0,3 mg/m3 |

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|---------------------|
| ethylbenzene (CAS 100-41-4) | TWA | 442 mg/m3 | Inhalable fraction. |
| | | 100 ppm | |
| Silicon Dioxide (CAS 112945-52-5) | TWA | 4 mg/m3 | Inhalable fraction. |

Spain. OELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 1-Valores Límites Ambientales (VLAs)

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 441 mg/m3 |
| | | 100 ppm |

Sweden. OELs (Annex 1). Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1), as amended

| Components | Type | Value |
|-----------------------------|---------|-----------|
| ethylbenzene (CAS 100-41-4) | Ceiling | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 220 mg/m3 |
| | | 50 ppm |

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 220 mg/m3 |
| | | 50 ppm |
| | TWA | 220 mg/m3 |
| | | 50 ppm |

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

| Components | Type | Value | Form |
|-----------------------------|------|-----------|------|
| ethylbenzene (CAS 100-41-4) | STEL | 552 mg/m3 | |
| | | 125 ppm | |
| | TWA | 441 mg/m3 | |

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

| Components | Type | Value | Form |
|-----------------------------------|------|-----------|------------------|
| Silicon Dioxide (CAS 112945-52-5) | TWA | 100 ppm | Inhalable dust. |
| | | 6 mg/m3 | |
| | | 2,4 mg/m3 | Respirable dust. |

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

| Components | Type | Value |
|-----------------------------|------|-----------|
| ethylbenzene (CAS 100-41-4) | STEL | 884 mg/m3 |
| | | 200 ppm |
| | TWA | 442 mg/m3 |
| | | 100 ppm |

Biological limit values
Croatia. BELs (BGV). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and BELs, Annex IV (NN 91/2018), as amended

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|--------------|---------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 1,5 g/g | Mandelic acid | Creatinine in urine | * |
| | 1,5 mg/l | ethylbenzene | Blood | * |
| | 1,12 mol/mol | Mandelic acid | Creatinine in urine | * |
| | 14,1 umol/l | ethylbenzene | Blood | * |

* - For sampling details, please see the source document.

Czech Republic. BELs. Government Decree 432/2003 Sb., as amended

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|----------------|---------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 1100 µmol/mmol | Mandelic acid | Creatinine in urine | * |
| | 1500 mg/g | Mandelic acid | Creatinine in urine | * |

* - For sampling details, please see the source document.

Finland. HTP-arvot, App 2., Biological Limit Values, Social Affairs and Ministry of Health

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|------------|---------------|----------|---------------|
| ethylbenzene (CAS 100-41-4) | 5,2 mmol/l | Mandelic acid | Urine | * |

* - For sampling details, please see the source document.

France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS), ND 2065)

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|-----------|------------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 1500 mg/g | Acide mandélique | Creatinine in urine | * |

* - For sampling details, please see the source document.

Germany. TRGS 903, BAT List (Biological Limit Values)

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|----------|-------------------------------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 250 mg/g | Mandelsäure plus Phenylglyoxylsäure | Creatinine in urine | * |

* - For sampling details, please see the source document.

Hungary. BELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 3&4, as amended

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|----------------|---------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 1110 µmol/mmol | mandelic acid | Creatinine in urine | * |
| | 1500 mg/g | mandelic acid | Creatinine in urine | * |

* - For sampling details, please see the source document.

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|-----------|---------------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 8,03 mg/g | 2 and 4-ethylphenol | Creatinine in urine | * |
| | 12 mg/l | 2 and 4-ethylphenol | Urine | * |

* - For sampling details, please see the source document.

Spain. BELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 3-Valores Límite Biológicos (VLB)

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|----------|--|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 700 mg/g | Suma del ácido mandélico y el ácido fenilglicólico | Creatinine in urine | * |

* - For sampling details, please see the source document.

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle BAT-Werte

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------|----------|----------------------------------|---------------------|---------------|
| ethylbenzene (CAS 100-41-4) | 600 mg/g | Mandelsäure + Phenylglyoxylsäure | Creatinine in urine | * |

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines Occupational Exposure Limits are not relevant to the current physical form of the product.

Austria MAK: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Belgium OELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Bulgaria OELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Croatia ELVs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Czech Republic PELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Denmark GV: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Estonia OELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

EU Exposure Limit Values: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Finland Exposure Limit Values: Skin designation

Butyrolactone (CAS 96-48-0) Can be absorbed through the skin.

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

France INRS: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

France Mandatory OELs (VLEP): Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

Butyrolactone (CAS 96-48-0) Can be absorbed through the skin.

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Germany TRGS 900 Limit Values: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Hungary OELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Iceland OELs: Skin designation

ethylbenzene (CAS 100-41-4) Can be absorbed through the skin.

Ireland Exposure Limit Values: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Italy OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Danger of cutaneous absorption

Latvia OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Lithuania OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Luxembourg OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Malta OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Netherlands OELs (binding): Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Norway Exposure Limit Values: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Portugal OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Romania OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Slovakia OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Spain OELs: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Sweden Threshold Limit Values: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

Switzerland SUVA Limit Values at the Workplace: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

UK EH40 WEL: Skin designation

ethylbenzene (CAS 100-41-4)

Can be absorbed through the skin.

8.2. Exposure controls**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment**General information**

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection**- Hand protection**

Wear appropriate chemical resistant gloves.

- Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

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

Not available.

| | |
|--|---|
| Form | Paste. |
| Color | Orange. |
| Odor | Slight. |
| Melting point/freezing point | Not available. |
| Boiling point or initial boiling point and boiling range | Not available. |
| Flammability | Not available. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - upper (%) | 16 % estimated |
| Flash point | >300,0 °F (>148,9 °C) |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| pH | Not available. |
| Kinematic viscosity | Not available. |
| Solubility | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) (log value) | Not available. |
| Vapor pressure | 0,6 hPa |
| Density and/or relative density | |
| Density | 1,11 g/cm ³ |
| Vapor density | Not available. |
| Particle characteristics | Not available. |
| 9.2. Other information | |
| 9.2.1. Information with regard to physical hazard classes | No relevant additional information available. |
| 9.2.2. Other safety characteristics | |
| Specific gravity | 1,11 |

SECTION 10: Stability and reactivity

| | |
|---|---|
| 10.1. Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| 10.2. Chemical stability | Material is stable under normal conditions. |
| 10.3. Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| 10.4. Conditions to avoid | Contact with incompatible materials. |
| 10.5. Incompatible materials | Strong oxidizing agents. |
| 10.6. Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11: Toxicological information

| | |
|---|---|
| General information | Occupational exposure to the substance or mixture may cause adverse effects. |
| Information on likely routes of exposure | |
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. |
| Eye contact | Causes serious eye irritation. |
| Ingestion | May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure. |
| Symptoms | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. |
| 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 | |
| Acute toxicity | Harmful in contact with skin. |

| Components | Species | Test Results |
|---|---|-----------------------|
| Butyrolactone (CAS 96-48-0) | | |
| <u>Acute</u> | | |
| Dermal | | |
| LD50 | Guinea pig | 5640 mg/kg |
| Inhalation | | |
| LC50 | Rat | > 2680 mg/m3, 4 Hours |
| Oral | | |
| LD50 | Rat | 1540 mg/kg |
| ethylbenzene (CAS 100-41-4) | | |
| <u>Acute</u> | | |
| Dermal | | |
| LD50 | Rabbit | 17800 mg/kg |
| Oral | | |
| LD50 | Rat | 3500 mg/kg |
| Silicon Dioxide (CAS 112945-52-5) | | |
| <u>Acute</u> | | |
| Oral | | |
| LD50 | Rat | > 22500 mg/kg |
| Skin corrosion/irritation | Causes skin irritation. | |
| Serious eye damage/eye irritation | Causes serious eye irritation. | |
| Respiratory sensitization | Due to partial or complete lack of data the classification is not possible. | |
| Skin sensitization | May cause an allergic skin reaction. | |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Carcinogenicity | Risk of cancer cannot be excluded with prolonged exposure. | |
| IARC Monographs. Overall Evaluation of Carcinogenicity | | |
| Butyrolactone (CAS 96-48-0) | 3 Not classifiable as to carcinogenicity to humans. | |
| ethylbenzene (CAS 100-41-4) | 2B Possibly carcinogenic to humans. | |
| Silicon Dioxide (CAS 112945-52-5) | 3 Not classifiable as to carcinogenicity to humans. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Specific target organ toxicity - single exposure | Due to partial or complete lack of data the classification is not possible. | |
| Specific target organ toxicity - repeated exposure | Due to partial or complete lack of data the classification is not possible. | |
| Aspiration hazard | Due to partial or complete lack of data the classification is not possible. | |
| Mixture versus substance information | No information available. | |
| 11.2. Information on other hazards | | |
| Endocrine disrupting properties | This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight. | |
| Other information | Not available. | |
| SECTION 12: Ecological information | | |
| 12.1. Toxicity | Toxic to aquatic life with long lasting effects. Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard. | |
| 12.2. Persistence and degradability | No data is available on the degradability of any ingredients in the mixture. | |
| 12.3. Bioaccumulative potential | | |
| Partition coefficient n-octanol/water (log Kow) | | |
| Butyrolactone | | -0,64 |
| ethylbenzene | | 3,15 |
| Bioconcentration factor (BCF) | Not available. | |
| 12.4. Mobility in soil | No data available. | |

| | |
|---|--|
| 12.5. Results of PBT and vPvB assessment | This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. |
| 12.6. Endocrine disrupting properties | This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight. |
| 12.7. Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

12.8. Additional information

Estonia Dangerous substances in soil Data

| | |
|-----------------------------------|--|
| ethylbenzene (CAS 100-41-4) | ETHYLBENZENE 0,1 MG/KG ETHYLBENZENE 5 MG/KG ETHYLBENZENE 50 MG/KG |
| Silicon Dioxide (CAS 112945-52-5) | Chemical pesticides (As the total sum of the active substances) 0,5 MG/KG Chemical pesticides (As the total sum of the active substances) 20 MG/KG Chemical pesticides (As the total sum of the active substances) 5 MG/KG |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------------|--|
| Residual waste | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| EU waste code | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Disposal methods/information | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Special precautions | Dispose in accordance with all applicable regulations. |

SECTION 14: Transport information

ADR

| | |
|---|--|
| 14.1. UN number | UN3082 |
| 14.2. UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol Polymer With Formaldehyde, Glycidyl Ether) |
| 14.3. Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Label(s) | 9 |
| Hazard No. (ADR) | 90 |
| Tunnel restriction code | - |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

RID

| | |
|---|--|
| 14.1. UN number | UN3082 |
| 14.2. UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol Polymer With Formaldehyde, Glycidyl Ether) |
| 14.3. Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Label(s) | 9 |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

ADN

| | |
|------------------------|--------|
| 14.1. UN number | UN3082 |
|------------------------|--------|

| | |
|---|--|
| 14.2. UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol Polymer With Formaldehyde, Glycidyl Ether) |
| 14.3. Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Label(s) | 9 |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

IATA

| | |
|---|--|
| 14.1. UN number | UN3082 |
| 14.2. UN proper shipping name | Environmentally hazardous substance, liquid, n.o.s. (Phenol Polymer With Formaldehyde, Glycidyl Ether) |
| 14.3. Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| ERG Code | 9L |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

Other information

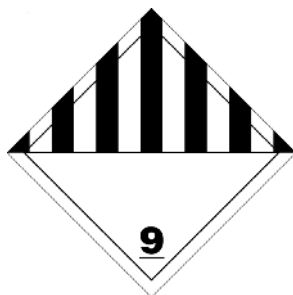
| | |
|-------------------------------------|----------------------------|
| Passenger and cargo aircraft | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

IMDG

| | |
|---|--|
| 14.1. UN number | UN3082 |
| 14.2. UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol Polymer With Formaldehyde, Glycidyl Ether) |
| 14.3. Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-A, S-F |
| 14.6. Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

14.7. Maritime transport in bulk according to IMO instruments Not applicable. Not established.

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Silicon Dioxide (CAS 112945-52-5)
ethylbenzene (CAS 100-41-4)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

UFI:

Austria: TWD0-S0C2-G00Y-1YHC
Belgium: TWD0-S0C2-G00Y-1YHC
Bulgaria: TWD0-S0C2-G00Y-1YHC
Croatia: TWD0-S0C2-G00Y-1YHC
Cyprus: TWD0-S0C2-G00Y-1YHC
Czech Republic: TWD0-S0C2-G00Y-1YHC
Denmark: TWD0-S0C2-G00Y-1YHC
Estonia: TWD0-S0C2-G00Y-1YHC
EU: TWD0-S0C2-G00Y-1YHC
Finland: TWD0-S0C2-G00Y-1YHC
France: TWD0-S0C2-G00Y-1YHC
Germany: TWD0-S0C2-G00Y-1YHC
Greece: TWD0-S0C2-G00Y-1YHC
Hungary: TWD0-S0C2-G00Y-1YHC
Iceland: TWD0-S0C2-G00Y-1YHC
Ireland: TWD0-S0C2-G00Y-1YHC
Italy: TWD0-S0C2-G00Y-1YHC
Latvia: TWD0-S0C2-G00Y-1YHC
Lithuania: TWD0-S0C2-G00Y-1YHC
Luxembourg: TWD0-S0C2-G00Y-1YHC
Malta: TWD0-S0C2-G00Y-1YHC
Netherlands: TWD0-S0C2-G00Y-1YHC
Norway: TWD0-S0C2-G00Y-1YHC
Poland: TWD0-S0C2-G00Y-1YHC
Portugal: TWD0-S0C2-G00Y-1YHC
Romania: TWD0-S0C2-G00Y-1YHC
Slovakia: TWD0-S0C2-G00Y-1YHC
Slovenia: TWD0-S0C2-G00Y-1YHC
Spain: TWD0-S0C2-G00Y-1YHC
Sweden: TWD0-S0C2-G00Y-1YHC

Authorizations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended
- Conditions of restriction given for the associated entry number should be considered
ethylbenzene (CAS 100-41-4) 40

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended
Not listed.

Other EU regulations Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008
- E2 Hazardous to the Aquatic Environment Chronic

Other regulations The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

Contains a substance which is included on the TRGS 905 list of carcinogenic, germ cell mutagenic and reproductive toxic substances

Silicon Dioxide (CAS 112945-52-5) Anorganische Faserstäube, soweit nicht erwähnt (ausgenommen Gipsfasernund Wollastonitfasern)

France regulations

France INRS Table of Occupational Diseases

ethylbenzene (CAS 100-41-4)

Affections engendrées par les solvants organiques liquides à usage professionnel : hydrocarbures liquides aliphatiques ou cycliques saturés ou insaturés et leurs mélanges; hydrocarbures halogénés liquides; dérivés nitrés des hydrocarbures aliphatiques; al 84

Phenol Polymer With Formaldehyde, Glycidyl Ether
(CAS 28064-14-4)

Maladies professionnelles provoquées par les résines époxydiques et leurs constituants 51

Product registration number

| | |
|-----------------------|--------------------------|
| Austria | UFI: TWD0-S0C2-G00Y-1YHC |
| Belgium | UFI: TWD0-S0C2-G00Y-1YHC |
| Czech Republic | UFI: TWD0-S0C2-G00Y-1YHC |
| Denmark | UFI: TWD0-S0C2-G00Y-1YHC |
| European Union | UFI: TWD0-S0C2-G00Y-1YHC |
| Finland | UFI: TWD0-S0C2-G00Y-1YHC |
| France | UFI: TWD0-S0C2-G00Y-1YHC |
| Germany | UFI: TWD0-S0C2-G00Y-1YHC |
| Greece | UFI: TWD0-S0C2-G00Y-1YHC |
| Hungary | UFI: TWD0-S0C2-G00Y-1YHC |
| Italy | UFI: TWD0-S0C2-G00Y-1YHC |
| Netherlands | UFI: TWD0-S0C2-G00Y-1YHC |
| Norway | UFI: TWD0-S0C2-G00Y-1YHC |
| Poland | UFI: TWD0-S0C2-G00Y-1YHC |
| Portugal | UFI: TWD0-S0C2-G00Y-1YHC |
| Slovakia | UFI: TWD0-S0C2-G00Y-1YHC |
| Slovenia | UFI: TWD0-S0C2-G00Y-1YHC |
| Spain | UFI: TWD0-S0C2-G00Y-1YHC |
| Sweden | UFI: TWD0-S0C2-G00Y-1YHC |
| Switzerland | UFI: TWD0-S0C2-G00Y-1YHC |

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.

Revision information**Training information****Disclaimer**

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Physical & Chemical Properties: Multiple Properties

Follow training instructions when handling this material.

ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.