

BRILLIANT Bulk Fill Flow

Coltène/Whaledent AG

Version No: 1.1

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: **06/11/2023**

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

1.1. Product Identifier

| | |
|-------------------------------|--------------------------|
| Product name | BRILLIANT Bulk Fill Flow |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |

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

| | |
|--------------------------|--|
| Relevant identified uses | Medical device, for dental use only |
| Uses advised against | No specific uses advised against are identified. |

1.3. Details of the manufacturer or supplier of the safety data sheet

| | |
|-------------------------|--|
| Registered company name | Coltène/Whaledent AG |
| Address | Feldwiesenstrasse 20 Altstätten CH-9450 Switzerland |
| Telephone | +41 (71) 75 75 300 |
| Fax | +41 (71) 75 75 301 |
| Website | www.coltene.com |
| Email | msds@coltene.com |

1.4. Emergency telephone number

| | |
|-----------------------------------|-------------------------------------|
| Association / Organisation | CHEMWATCH EMERGENCY RESPONSE (24/7) |
| Emergency telephone numbers | +41 44 551 43 62 |
| Other emergency telephone numbers | +61 3 9573 3188 |

Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

Una volta collegato, se il messaggio non é nella lingua di preferenza, si prega di digitare 08

Sobald die Verbindung hergestellt und wenn die Nachricht nicht in der gewünschten Sprache dann wählen Sie bitte 10


SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

| | |
|---|--|
| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1] | H315 - Skin Corrosion/Irritation Category 2, H317 - Sensitisation (Skin) Category 1, H319 - Serious Eye Damage/Eye Irritation Category 2, H335 - Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H412 - Hazardous to the Aquatic Environment Long-Term Hazard Category 3 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

2.2. Label elements

BRILLIANT Bulk Fill Flow

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|---------------------|---|
| Hazard pictogram(s) |  |
|---------------------|---|

| | |
|-------------|----------------|
| Signal word | Warning |
|-------------|----------------|

Hazard statement(s)

| | |
|------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

| | |
|------|--|
| P271 | Use only a well-ventilated area. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P261 | Avoid breathing mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P264 | Wash all exposed external body areas thoroughly after handling. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |
| 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. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P405 | Store locked up. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

Precautionary statement(s) Disposal

| | |
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| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

2.3. Other hazards

| | |
|---|--|
| bisphenol A dimethacrylate, ethoxylated | Determined to have endocrine-disrupting properties according to Europe Regulation (EU) 528/2012, Europe Regulation (EU) 2017/2100, and Europe Regulation (EU) 2018/605 |
|---|--|

SECTION 3 Composition / information on ingredients**3.1. Substances**

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

| 1. CAS No 2. EC No | %[weight] | Name | Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | SCL / M-Factor | Nanoform Particle |
|-----------------------|-----------|------|---|----------------|-------------------|
|-----------------------|-----------|------|---|----------------|-------------------|

Continued...

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| 3.Index No 4.REACH No | | | | Characteristics |
|--|---------|---|---|--------------------------------|
| 1. 109-16-0* 2.203-652-6 3.Not Available 4.Not Available | 2.5-7.5 | <u>triethylene glycol dimethacrylate</u> | Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; H315, H317, H319, H335 [1] | Not Available Not Available |
| 1. 1565-94-2* 2.216-367-7 3.Not Available 4.Not Available | 10-15 | <u>bisphenol A glycidylmethacrylate</u> | Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; H315, H319, H335 [1] | Not Available Not Available |
| 1. 131-57-7* 2.205-031-5 3.Not Available 4.Not Available | <0.2 | <u>oxybenzone</u> | Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H400, H410 [1] | Not Available Not Available |
| 1. 1314-13-2 2.215-222-5 3.030-013-00-7 4.Not Available | <0.2 | <u>zinc oxide</u> | Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H400, H410 [2] | Not Available Not Available |
| 1. 41637-38-1 2.Not Available 3.Not Available 4.Not Available | 15-25 | <u>bisphenol A dimethacrylate, ethoxylated</u> [e] | Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure Category 3; H315, H317, H319, H335 [3] | Not Available Not Available |
| 1. 13760-80-0* 2.237-354-2 3.Not Available 4.Not Available | 2.5-7.5 | <u>ytterbium(III) fluoride</u> * | Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; H315, H319, H335 [1] | Not Available Not Available |
| Legend: | | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties | | |

SECTION 4 First aid measures

4.1. Description of first aid measures

| | |
|---------------------|---|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. |
| Ingestion | <ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.

Continued...

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- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

5.2. Special hazards arising from the substrate or mixture

| | |
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| Fire Incompatibility | ‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

5.3. Advice for firefighters

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|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear breathing apparatus plus protective gloves. ‣ Prevent, by any means available, spillage from entering drains or water courses. ‣ Use water delivered as a fine spray to control fire and cool adjacent area. ‣ DO NOT approach containers suspected to be hot. ‣ Cool fire exposed containers with water spray from a protected location. ‣ If safe to do so, remove containers from path of fire. ‣ Equipment should be thoroughly decontaminated after use. |
| Fire/Explosion Hazard | <p>Combustible. Will burn if ignited. Combustion products include:</p> <ul style="list-style-type: none"> , carbon monoxide (CO) , carbon dioxide (CO₂) , metal oxides , other pyrolysis products typical of burning organic material. <p>May emit poisonous fumes. May emit corrosive fumes.</p> |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ‣ Clean up all spills immediately. ‣ Avoid contact with skin and eyes. ‣ Wear impervious gloves and safety goggles. ‣ Trowel up/scrape up. ‣ Place spilled material in clean, dry, sealed container. ‣ Flush spill area with water. |
| Major Spills | <p>Minor hazard.</p> <ul style="list-style-type: none"> ‣ Clear area of personnel. ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Control personal contact with the substance, by using protective equipment as required. ‣ Prevent spillage from entering drains or water ways. ‣ Contain spill with sand, earth or vermiculite. ‣ Collect recoverable product into labelled containers for recycling. ‣ Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. ‣ Wash area and prevent runoff into drains or waterways. ‣ If contamination of drains or waterways occurs, advise emergency services. |

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

| | |
|----------------------|--|
| Safe handling | |
|----------------------|--|

Continued...

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| | |
|--------------------------------------|--|
| | <ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ DO NOT allow material to contact humans, exposed food or food utensils. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. |
| Fire and explosion protection | See section 5 |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--|---|
| Suitable container | <ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <p>for multifunctional acrylates:</p> <ul style="list-style-type: none"> ▶ Avoid exposure to free radical initiators (peroxides, persulfates) , iron, rust, oxidisers, and strong acids and strong bases. ▶ Avoid heat, flame, sunlight, X-rays or ultra-violet radiation. ▶ Storage beyond expiration date, may initiate polymerisation. Polymerisation of large quantities may be violent (even explosive) |
| Hazard categories in accordance with Regulation (EC) No 1272/2008 | Not Available |
| Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of | Not Available |

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

| Ingredient | DNELs Exposure Pattern Worker | PNECs Compartment |
|-----------------------------------|--|---|
| triethylene glycol dimethacrylate | Dermal 13.9 mg/kg bw/day (Systemic, Chronic) Inhalation 48.5 mg/m ³ (Systemic, Chronic) <i>Dermal 8.33 mg/kg bw/day (Systemic, Chronic) *</i> <i>Inhalation 14.5 mg/m³ (Systemic, Chronic) *</i> <i>Oral 8.33 mg/kg bw/day (Systemic, Chronic) *</i> | 0.016 mg/L (Water (Fresh)) 0.016 mg/L (Water - Intermittent release) 0.002 mg/L (Water (Marine)) 0.185 mg/kg sediment dw (Sediment (Fresh Water)) 0.018 mg/kg sediment dw (Sediment (Marine)) 0.027 mg/kg soil dw (Soil) 1.7 mg/L (STP) |
| oxybenzone | Dermal 39 mg/kg bw/day (Systemic, Chronic) Inhalation 27.7 mg/m ³ (Systemic, Chronic) <i>Dermal 20 mg/kg bw/day (Systemic, Chronic) *</i> <i>Inhalation 6.8 mg/m³ (Systemic, Chronic) *</i> <i>Oral 2 mg/kg bw/day (Systemic, Chronic) *</i> | 0.67 µg/L (Water (Fresh)) 6.7 µg/L (Water - Intermittent release) 0.067 µg/L (Water (Marine)) 0.066 mg/kg sediment dw (Sediment (Fresh Water)) 0.007 mg/kg sediment dw (Sediment (Marine)) |

Continued...

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| Ingredient | DNELs Exposure Pattern Worker | PNECs Compartment |
|--|---|---|
| | | 0.013 mg/kg soil dw (Soil) 10 mg/L (STP) |
| zinc oxide | Dermal 83 mg/kg bw/day (Systemic, Chronic) Inhalation 2 mg/m ³ (Systemic, Chronic) Inhalation 4 µg/m ³ (Local, Chronic) Inhalation 2 mg/m ³ (Systemic, Acute) <i>Dermal 83 mg/kg bw/day (Systemic, Chronic) *</i> <i>Inhalation 1 mg/m³ (Systemic, Chronic) *</i> <i>Oral 0.83 mg/kg bw/day (Systemic, Chronic) *</i> <i>Inhalation 1 mg/m³ (Systemic, Acute) *</i> | 0.19 µg/L (Water (Fresh)) 1.2 µg/L (Water - Intermittent release) 1.14 µg/L (Water (Marine)) 18 mg/kg sediment dw (Sediment (Fresh Water)) 6.4 mg/kg sediment dw (Sediment (Marine)) 0.7 mg/kg soil dw (Soil) 20 µg/L (STP) 0.16 mg/kg food (Oral) |
| bisphenol A dimethacrylate, ethoxylated | Dermal 140 mg/kg bw/day (Systemic, Chronic) Inhalation 98.7 mg/m ³ (Systemic, Chronic) <i>Dermal 50 mg/kg bw/day (Systemic, Chronic) *</i> <i>Inhalation 17.4 mg/m³ (Systemic, Chronic) *</i> <i>Oral 5 mg/kg bw/day (Systemic, Chronic) *</i> | Not Available |

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|--|-------------------------|---|-----------------------|---------------------|---------------|---------------|
| Switzerland Occupational Exposure Limits (German) | zinc oxide | Zinkoxid (Rauch) - alveolengängiger Staub (Feinstaub) | 3 mg/m ³ | 3 mg/m ³ | Not Available | NIOSH OSHA |
| EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs) | ytterbium(III) fluoride | Inorganic Fluorides | 2.5 mg/m ³ | Not Available | Not Available | Skin |

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|-----------------------------------|----------------------|-----------------------|-------------------------|
| triethylene glycol dimethacrylate | 33 mg/m ³ | 360 mg/m ³ | 2,100 mg/m ³ |
| zinc oxide | 10 mg/m ³ | 15 mg/m ³ | 2,500 mg/m ³ |
| ytterbium(III) fluoride | 30 mg/m ³ | 330 mg/m ³ | 2,000 mg/m ³ |

| Ingredient | Original IDLH | Revised IDLH |
|---|-----------------------|---------------|
| triethylene glycol dimethacrylate | Not Available | Not Available |
| bisphenol A glycidylmethacrylate | Not Available | Not Available |
| oxybenzone | Not Available | Not Available |
| zinc oxide | 500 mg/m ³ | Not Available |
| bisphenol A dimethacrylate, ethoxylated | Not Available | Not Available |
| ytterbium(III) fluoride | Not Available | Not Available |

Occupational Exposure Banding

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|-----------------------------------|----------------------------------|
| triethylene glycol dimethacrylate | E | ≤ 0.1 ppm |
| bisphenol A glycidylmethacrylate | E | ≤ 0.1 ppm |
| bisphenol A dimethacrylate, ethoxylated | E | ≤ 0.1 ppm |

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

MATERIAL DATA

for zinc oxide:

Continued...

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Zinc oxide intoxication (intoxication zincale) is characterised by general depression, shivering, headache, thirst, colic and diarrhoea. Exposure to the fume may produce metal fume fever characterised by chills, muscular pain, nausea and vomiting. Short-term studies with guinea pigs show pulmonary function changes and morphologic evidence of small airway inflammation. A no-observed-adverse-effect level (NOAEL) in guinea pigs was 2.7 mg/m³ zinc oxide. Based on present data, the current TLV-TWA may be inadequate to protect exposed workers although known physiological differences in the guinea pig make it more susceptible to functional impairment of the airways than humans.

CEL TWA: 1 mg/m³ [compare WEEL-TWA* for multifunctional acrylates (MFAs)]

(CEL = Chemwatch Exposure Limit)

Exposure to MFAs has been reported to cause contact dermatitis in humans and serious eye injury in laboratory animals. Exposure to some MFA-resin containing aerosols has also been reported to cause dermatitis. As no assessment of the possible effects of long-term exposure to aerosols was found, a conservative Workplace Environmental Exposure Level (WEEL) was suggested by the American Industrial Hygiene Association (AIHA).

8.2. Exposure controls

| <p>8.2.1. Appropriate engineering controls</p> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> <table border="1" data-bbox="384 965 1489 1285"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1" data-bbox="384 1335 1203 1518"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p> | Type of Contaminant: | Air Speed: | solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min) | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion) | 2.5-10 m/s (500-2000 f/min.) | Lower end of the range | Upper end of the range | 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity | 3: Intermittent, low production. | 3: High production, heavy use | 4: Large hood or large air mass in motion | 4: Small hood-local control only |
|---|--|----------------------|------------|--|--------------------------------|---|-------------------------------|--|-------------------------------|---|---------------------------------|------------------------|------------------------|---|---------------------------------|--|----------------------------------|----------------------------------|-------------------------------|---|----------------------------------|
| Type of Contaminant: | Air Speed: | | | | | | | | | | | | | | | | | | | | |
| solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min) | | | | | | | | | | | | | | | | | | | | |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | | | | | | | | | | | | | | | | | | | | |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | | | | | | | | | | | | | | | | | | | | |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion) | 2.5-10 m/s (500-2000 f/min.) | | | | | | | | | | | | | | | | | | | | |
| Lower end of the range | Upper end of the range | | | | | | | | | | | | | | | | | | | | |
| 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | | | | | | | | | | | | | | | | | | | | |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity | | | | | | | | | | | | | | | | | | | | |
| 3: Intermittent, low production. | 3: High production, heavy use | | | | | | | | | | | | | | | | | | | | |
| 4: Large hood or large air mass in motion | 4: Small hood-local control only | | | | | | | | | | | | | | | | | | | | |
| <p>8.2.2. Individual protection measures, such as personal protective equipment</p> |  | | | | | | | | | | | | | | | | | | | | |
| <p>Eye and face protection</p> | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]. | | | | | | | | | | | | | | | | | | | | |
| <p>Skin protection</p> | <p>See Hand protection below</p> | | | | | | | | | | | | | | | | | | | | |

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|------------------------------|--|
| Hands/feet protection | NOTE: <ul style="list-style-type: none"> ▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream. ▸ Skin cleansing cream. ▸ Eye wash unit. |

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES | P1 Air-line* | - - | PAPR-P1 - |
| up to 50 x ES | Air-line** | P2 | PAPR-P2 |
| up to 100 x ES | - | P3 | - |
| | | Air-line* | - |
| 100+ x ES | - | Air-line** | PAPR-P3 |

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | | |
|---|-----------------|--|---------------|
| Appearance | Not Available | | |
| Physical state | Non Slump Paste | Relative density (Water = 1) | Not Available |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Available | Decomposition temperature (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Available | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Available | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |
| Nanoform Solubility | Not Available | Nanoform Particle Characteristics | Not Available |

Continued...

BRILLIANT Bulk Fill Flow

| | |
|---------------|---------------|
| Particle Size | Not Available |
|---------------|---------------|

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

| | |
|--|---|
| 10.1.Reactivity | See section 7.2 |
| 10.2. Chemical stability | Product is considered stable and hazardous polymerisation will not occur. |
| 10.3. Possibility of hazardous reactions | See section 7.2 |
| 10.4. Conditions to avoid | See section 7.2 |
| 10.5. Incompatible materials | See section 7.2 |
| 10.6. Hazardous decomposition products | See section 5.3 |

SECTION 11 Toxicological information

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

| | TOXICITY | IRRITATION |
|---|---|--|
| BRILLIANT Bulk Fill Flow | Not Available | Not Available |
| triethylene glycol dimethacrylate | Oral (Mouse) LD50: 10750 mg/kg ^[2] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Oral (Rat) LD50: 10837 mg/kg ^[2] | Skin: no adverse effect observed (not irritating) ^[1] |
| bisphenol A glycidylmethacrylate | Not Available | Not Available |
| oxybenzone | Dermal (rabbit) LD50: >16000 mg/kg * ^[2] | Not Available |
| | Oral (Rat) LD50: >12800 mg/kg * ^[2] | |
| | Oral (Rat) LD50: 7400 mg/kg ^[2] | |
| zinc oxide | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye (rabbit) : 500 mg/24 h - mild |
| | Inhalation(Rat) LC50: >1.79 mg/l4h ^[1] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Oral (Rat) LD50: >5000 mg/kg ^[1] | Skin (rabbit) : 500 mg/24 h- mild |
| | | Skin: no adverse effect observed (not irritating) ^[1] |
| bisphenol A dimethacrylate, ethoxylated | Not Available | Not Available |
| ytterbium(III) fluoride | Oral (Rat) LD50: >2000 mg/kg ^[1] | Skin: no adverse effect observed (not irritating) ^[1] |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|--------------------------|---|
| BRILLIANT Bulk Fill Flow | <p>The various members of the bisphenol family produce hormone like effects, seemingly as a result of binding to estrogen receptor-related receptors (ERRs; not to be confused with estrogen receptors)</p> <p>A suspected estrogen-related receptors (ERR) binding agent:</p> <p>Estrogen-related receptors (ERR, oestrogen-related receptors) are so named because of sequence homology with estrogen receptors but do not appear to bind estrogens or other tested steroid hormones. The ERR family have been demonstrated to control energy homeostasis, oxidative metabolism and mitochondrial biogenesis ,while effecting mammalian physiology in the heart, brown adipose tissue, white adipose tissue, placenta, macrophages, and demonstrated additional roles in diabetes and</p> |
|--------------------------|---|

Continued...

BRILLIANT Bulk Fill Flow

| | |
|--|--|
| | <p>cancer.</p> <p>ERRs bind enhancers throughout the genome where they exert effects on gene regulation. Although their overall functions remain uncertain, they also share DNA-binding sites, co-regulators, and target genes with the conventional estrogen receptors ERalpha and ERbeta and may function to modulate estrogen signaling pathways.</p> <ul style="list-style-type: none"> · ERR-alpha has wide tissue distribution but it is most highly expressed in tissues that preferentially use fatty acids as energy sources such as kidney, heart, brown adipose tissue, cerebellum, intestine, and skeletal muscle. ERRalpha has been detected in normal adrenal cortex tissues, in which its expression is possibly related to adrenal development, with a possible role in fetal adrenal function, in dehydroepiandrosterone (DHEAS) production in adrenarche, and also in steroid production of post-adrenarche/adult life. DHEA and other adrenal androgens such as androstenedione, although relatively weak androgens, are responsible for the androgenic effects of adrenarche, such as early pubic and axillary hair growth, adult-type body odor, increased oiliness of hair and skin, and mild acne. · ERR-beta is a nuclear receptor. Its function is unknown; however, a similar protein in mouse plays an essential role in placental development · ERR-gamma is a nuclear receptor that behaves as a constitutive activator of transcription. There is evidence that bisphenol A functions as an endocrine disruptor by binding strongly to ERRgamma BPA as well as its nitrated and chlorinated metabolites seems to binds strongly to ERR-gamma (dissociation constant = 5.5 nM), but not to the estrogen receptor (ER). BPA binding to ERR-gamma preserves its basal constitutive activity. Different expression of ERR-gamma in different parts of the body may account for variations in bisphenol A effects. For instance, ERR-gamma has been found in high concentration in the placenta, explaining reports of high bisphenol A accumulation there |
|--|--|

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✗ | Carcinogenicity | ✗ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ✗ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✓ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ✗ |
| Mutagenicity | ✗ | Aspiration Hazard | ✗ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

Many chemicals may mimic or interfere with the body's hormones, known as the endocrine system. Endocrine disruptors are chemicals that can interfere with endocrine (or hormonal) systems. Endocrine disruptors interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body. Any system in the body controlled by hormones can be derailed by hormone disruptors. Specifically, endocrine disruptors may be associated with the development of learning disabilities, deformations of the body various cancers and sexual development problems. Endocrine disrupting chemicals cause adverse effects in animals. But limited scientific information exists on potential health problems in humans. Because people are typically exposed to multiple endocrine disruptors at the same time, assessing public health effects is difficult.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

| BRILLIANT Bulk Fill Flow | Endpoint | Test Duration (hr) | Species | Value | Source |
|-----------------------------------|---------------|-------------------------------|-------------------------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| triethylene glycol dimethacrylate | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 72h | Algae or other aquatic plants | 72.8mg/l | 2 |
| | LC50 | 96h | Fish | 16.4mg/l | 2 |
| NOEC(ECx) | 72h | Algae or other aquatic plants | 18.6mg/l | 2 | |
| bisphenol A glycidylmethacrylate | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| oxybenzone | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 72h | Algae or other aquatic plants | <=0.04169mg/l | 4 |
| | EC50 | 48h | Crustacea | 1.87mg/l | Not Available |

Continued...

BRILLIANT Bulk Fill Flow

| | | | | | |
|---|--|---------------------------|-------------------------------|---------------|---------------|
| | LC50 | 96h | Fish | 3.8mg/l | Not Available |
| | NOEC(ECx) | 96h | Fish | 0.72mg/l | Not Available |
| | BCF | 1680h | Fish | 33-156 | 7 |
| zinc oxide | Endpoint | Test Duration (hr) | Species | Value | Source |
| | BCF | 1344h | Fish | 19-110 | 7 |
| | EC50 | 72h | Algae or other aquatic plants | 0.022mg/L | 2 |
| | EC50 | 48h | Crustacea | 0.105mg/L | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 0.042mg/L | 2 |
| | ErC50 | 72h | Algae or other aquatic plants | 0.62mg/l | 2 |
| | LC50 | 96h | Fish | 0.102mg/L | 2 |
| | EC10(ECx) | 168h | Algae or other aquatic plants | 0.003mg/L | 2 |
| bisphenol A dimethacrylate, ethoxylated | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| ytterbium(III) fluoride | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 48h | Crustacea | >0.52mg/l | 2 |
| | NOEC(ECx) | 48h | Crustacea | 0.52mg/l | 2 |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|-----------------------------------|-------------------------|------------------|
| triethylene glycol dimethacrylate | LOW | LOW |
| oxybenzone | HIGH | HIGH |

12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation |
|-----------------------------------|---------------------|
| triethylene glycol dimethacrylate | LOW (LogKOW = 1.88) |
| oxybenzone | LOW (BCF = 160) |
| zinc oxide | LOW (BCF = 217) |

12.4. Mobility in soil

| Ingredient | Mobility |
|-----------------------------------|------------------|
| triethylene glycol dimethacrylate | LOW (KOC = 10) |
| oxybenzone | LOW (KOC = 1268) |

12.5. Results of PBT and vPvB assessment

| | P | B | T |
|-------------------------|---------------|---------------|---------------|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT | ✘ | ✘ | ✘ |
| vPvB | ✘ | ✘ | ✘ |

PBT Criteria fulfilled?

No

Continued...

BRILLIANT Bulk Fill Flow

vPvB

No

12.6. Endocrine disrupting properties

The evidence linking adverse effects to endocrine disruptors is more compelling in the environment than it is in humans. Endocrine disruptors profoundly alter reproductive physiology of ecosystems and ultimately impact entire populations. Some endocrine-disrupting chemicals are slow to break down in the environment. That characteristic makes them potentially hazardous over long periods of time. Some well established adverse effects of endocrine disruptors in various wildlife species include eggshell-thinning, displayed of characteristics of the opposite sex and impaired reproductive development. Other adverse changes in wildlife species that have been suggested, but not proven include reproductive abnormalities, immune dysfunction and skeletal deformities.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations**13.1. Waste treatment methods**

| | |
|-------------------------------------|--|
| Product / Packaging disposal | Dispose of waste according to applicable legislation. Special country-specific regulations may apply. Can be disposed together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge. (Only dispose of completely emptied packages.) |
| Waste treatment options | Not Available |
| Sewage disposal options | Not Available |

SECTION 14 Transport information**Labels Required**

| | |
|-------------------------|----|
| Marine Pollutant | NO |
|-------------------------|----|

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

| | | |
|---|--------------------------------|----------------|
| 14.1. UN number or ID number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | Class | Not Applicable |
| | Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Hazard identification (Kemler) | Not Applicable |
| | Classification code | Not Applicable |
| | Hazard Label | Not Applicable |
| | Special provisions | Not Applicable |
| | Limited quantity | Not Applicable |
| | Tunnel Restriction Code | Not Applicable |

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

| | | |
|---|-------------------------------|----------------|
| 14.1. UN number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | ICAO/IATA Class | Not Applicable |
| | ICAO / IATA Subsidiary Hazard | Not Applicable |
| | ERG Code | Not Applicable |
| 14.4. Packing group | Not Applicable | |

Continued...

BRILLIANT Bulk Fill Flow

| | | |
|------------------------------------|---|----------------|
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | Not Applicable |
| | Cargo Only Packing Instructions | Not Applicable |
| | Cargo Only Maximum Qty / Pack | Not Applicable |
| | Passenger and Cargo Packing Instructions | Not Applicable |
| | Passenger and Cargo Maximum Qty / Pack | Not Applicable |
| | Passenger and Cargo Limited Quantity Packing Instructions | Not Applicable |
| | Passenger and Cargo Limited Maximum Qty / Pack | Not Applicable |

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

| | | |
|------------------------------------|------------------------|----------------|
| 14.1. UN number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | IMDG Class | Not Applicable |
| | IMDG Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | EMS Number | Not Applicable |
| | Special provisions | Not Applicable |
| | Limited Quantities | Not Applicable |

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

| | | |
|------------------------------------|---------------------|----------------|
| 14.1. UN number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | Not Applicable | Not Applicable |
| | | |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Classification code | Not Applicable |
| | Special provisions | Not Applicable |
| | Limited quantity | Not Applicable |
| | Equipment required | Not Applicable |
| | Fire cones number | Not Applicable |

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---|---------------|
| triethylene glycol dimethacrylate | Not Available |
| bisphenol A glycidylmethacrylate | Not Available |
| oxybenzone | Not Available |
| zinc oxide | Not Available |
| bisphenol A dimethacrylate, ethoxylated | Not Available |

Continued...

BRILLIANT Bulk Fill Flow

| Product name | Group |
|-------------------------|---------------|
| ytterbium(III) fluoride | Not Available |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|---------------|
| triethylene glycol dimethacrylate | Not Available |
| bisphenol A glycidylmethacrylate | Not Available |
| oxybenzone | Not Available |
| zinc oxide | Not Available |
| bisphenol A dimethacrylate, ethoxylated | Not Available |
| ytterbium(III) fluoride | Not Available |

SECTION 15 Regulatory information**15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture****triethylene glycol dimethacrylate is found on the following regulatory lists**

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

bisphenol A glycidylmethacrylate is found on the following regulatory lists

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

oxybenzone is found on the following regulatory lists

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

zinc oxide is found on the following regulatory lists

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Switzerland Occupational Exposure Limits (German)

bisphenol A dimethacrylate, ethoxylated is found on the following regulatory lists

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances

ytterbium(III) fluoride is found on the following regulatory lists

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

Additional Regulatory Information

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

| Seveso Category | Not Available |
|-----------------|---------------|
| | |

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

Continued...

BRILLIANT Bulk Fill Flow

National Inventory Status

| National Inventory | Status |
|--|---|
| Australia - AIIIC / Australia Non-Industrial Use | No (ytterbium(III) fluoride) |
| Canada - DSL | No (ytterbium(III) fluoride) |
| Canada - NDSL | No (triethylene glycol dimethacrylate; bisphenol A glycidylmethacrylate; oxybenzone; bisphenol A dimethacrylate, ethoxylated) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | No (bisphenol A dimethacrylate, ethoxylated) |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | No (bisphenol A dimethacrylate, ethoxylated; ytterbium(III) fluoride) |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | No (bisphenol A glycidylmethacrylate; bisphenol A dimethacrylate, ethoxylated; ytterbium(III) fluoride) |
| Vietnam - NCI | No (ytterbium(III) fluoride) |
| Russia - FBEPH | No (bisphenol A glycidylmethacrylate; bisphenol A dimethacrylate, ethoxylated) |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

SECTION 16 Other information

| | |
|----------------------|------------|
| Revision Date | 06/11/2023 |
| Initial Date | 06/11/2023 |

Full text Risk and Hazard codes

| | |
|-------------|---|
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

- EN 166 Personal eye-protection
- EN 340 Protective clothing
- EN 374 Protective gloves against chemicals and micro-organisms
- EN 13832 Footwear protecting against chemicals
- EN 133 Respiratory protective devices

Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value

BRILLIANT Bulk Fill Flow

- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration

- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | Classification Procedure |
|---|---------------------------------|
| Skin Corrosion/Irritation Category 2, H315 | Calculation method |
| Sensitisation (Skin) Category 1, H317 | Calculation method |
| Serious Eye Damage/Eye Irritation Category 2, H319 | Calculation method |
| Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3 , H335 | Calculation method |
| Hazardous to the Aquatic Environment Long-Term Hazard Category 3, H412 | Calculation method |

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