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| SAFETY DATA SHEET | Revision Date: 03/18/2020 |
| | Print Date: 06.01.2021 |
| | SDS Number: 000000222268 |
| AME™ 5500 C RESIN | Version: 6.1 |
| Irademark, INEOS or its subsidiaries, registered | |
| 809351 | |
| | |
| 1. PRODUCT AND COMPANY IDENTIFICATION | |
| Product identifier | |
| Trade name : AME™ 5 | 500 C |
| RESIN | |
| ™ Trader | mark, INEOS or its subsidiaries, registered in |
| various co | ountries |
| Relevant identified uses of the substance or n | nixture and uses advised against |
| Recommended use : Industrial che | emical |
| | |
| Details of the supplier of the safety data | Emergency telephone number |
| sheet | 1-800-424-9300 (+1-703-527-3887 for direct |
| | dial), or call the local emergency number 0532 |
| Shanghai INEOS Composites Co., Ltd. | 8388 9090 (China) |
| Unit 1801B of Xuhuiyuan Building No 1089, | |
| Shandhai 200030 | Regulatory Information Number |
| China | 021 2402 4688 (in China), or contact your local |
| | customer service representative |
| 上海英力士复合材料有限公司 | · · · · · · · · · · · · · · · · · · · |
| 上海市中山南二路1089号徐汇苑大厦18楼1801B | Product Information |
| 上海 200030 | +021 2402 4688 |
| 中国 | |

sds.composites@ineos.com

2. HAZARDS IDENTIFICATION

GHS Classification

| Flammable liquids | : | Category 3 |
|---|---|---|
| Acute toxicity (Inhalation) | : | Category 5 |
| Skin corrosion/irritation | : | Category 2 |
| Serious eye damage/eye irritation | : | Category 2A |
| Specific target organ toxicity - single exposure | : | Category 3 (respiratory tract irritation) |
| Specific target organ toxicity - | : | Category 1 (Auditory system) |

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| repeated exposure (Inhalation) | | |
| Aspiration hazard | : Category 1 | |
| Short-term (acute) aquatic hazard | : Category 2 | |
| GHS label elements | | |
| Hazard pictograms | | |
| Signal word | : Danger | |
| Hazard statements | : H226 Flamma H304 May be H315 Causes H319 Causes H333 May be H335 May cau H372 Causes prolonged or H401 Toxic to | able liquid and vapour. fatal if swallowed and enters airways. skin irritation. serious eye irritation. harmful if inhaled. use respiratory irritation. damage to organs (Auditory system) through repeated exposure if inhaled. o aquatic life. |
| Precautionary statements | Prevention: P210 Keep av No smoking. P233 Keep co P240 Ground, P241 Use exp equipment. P242 Use onl P243 Take pr P260 Do not b P264 Wash si P270 Do not e P271 Use onl P273 Avoid re P280 Wear pr Response: P301 + P310 CENTER/ door P303 + P361 immediately a shower. | way from heat/ sparks/ open flames/ hot surfaces. ontainer tightly closed. /bond container and receiving equipment. olosion-proof electrical/ ventilating/ lighting y non-sparking tools. ecautionary measures against static discharge. oreathe dust/ fume/ gas/ mist/ vapours/ spray. kin thoroughly after handling. eat, drink or smoke when using this product. y outdoors or in a well-ventilated area. elease to the environment. rotective gloves/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON ctor. + P353 IF ON SKIN (or hair): Take off Ill contaminated clothing. Rinse skin with water/ |

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P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/ attention if you feel unwell. P331 Do NOT induce vomiting. P332 + P313 If skin irritation 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. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substance / Mixture | : | Mixture |
|---------------------|---|---------|
|---------------------|---|---------|

Hazardous components

| Chemical name | CAS-No. Registration number | Classification | Concentration (%) |
|------------------|--------------------------------|---|--------------------|
| STYRENE | 100-42-5 | Flam. Liq. 3; H226 Acute Tox. 5; H303 Acute Tox. 4; H332 Skin Corr. 2; H315 Eye Dam. 2A; H319 STOT SE 3; H335 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Acute 2; H401 | >= 30.00 - < 50.00 |
| METHACRYLIC ACID | 79-41-4 | Flam. Liq. 4; H227 Acute Tox. 4; H302 Acute Tox. 4; H332 | >= 0.25 - < 1.00 |

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| DIMETHYLANILINE | 121-69-7 | Acute Tox. 3; H311 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 3; H402 Flam. Liq. 4; H227 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 |
| COPPER COMPOUND | 142-71-2 | Eye Dam. 2A; H319 Carc. 2; H351 Aquatic Acute 2; H401 Aquatic Chronic 2; H411 Acute Tox. 4; H302 >= 0.025 - < 0.10 |
| | | Skin Corr. 1; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 |

>= 0.0025 - <

0.025

Acute Tox. 4; H302

Acute Tox. 4; H302 Skin Corr. 2; H315 Eye Dam. 2A; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

ORGANIC COMPOUND

| General advice | Consult a physician. Show this safety data sheet to the doctor in attendance. |
|-------------------------|---|
| If inhaled : | Move to fresh air. Consult a physician after significant exposure. If symptoms persist, call a physician. In case of shortness of breath, give oxygen. |
| In case of skin contact | Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. |

95-71-6

| INECOS SAFETY DATA SHEET Revision Date: 03/ Print Date: 06.0 AME™ 5500 C RESIN ™ Trademark, INEOS or its subsidiaries, registered in various countries SDS Number: 000000 W Trademark, INEOS or its subsidiaries, registered in various countries Versi In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses. If swallowed : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary. Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | |
|--|------------------------|
| SAFETY DATA SHEET Revision Date: 03/2 Print Date: 06.0 Print Date: 06.0 AME™ 5500 C RESIN SDS Number: 000000 ™ Trademark, INEOS or its subsidiaries, registered in various countries SDS Number: 000000 In case of eye contact : In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses. If swallowed : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary. Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | Page: 5 |
| Print Date: 06.0 AME™ 5500 C RESIN ™ Trademark, INEOS or its subsidiaries, registered in various countries 809351 In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses. If swallowed : Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | 3/18/2020 |
| AME ™ 5500 C RESIN SDS Number: 000000 ™ Trademark, INEOS or its subsidiaries, registered Versi in various countries 809351 In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses. If swallowed : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary. Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | 3.01.2021 |
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| If swallowed Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary. Most important symptoms and effects, both acute and delayed Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | |
| Most important symptoms and effects, both acute and delayed Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Nose bleeding | |
| Cough Headache loss of appetite pain in the abdomen and lower back confusion cyanosis (causes blue coloring of the skin and nails from lack of oxygen) lung edema (fluid buildup in the lung tissue) acute kidney failure (sudden slowing or stopping of urine production) Convulsions Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnia, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post- exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The | |

May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation.

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| AME [™] 5500 C RESIN [™] Trademark, INEOS or its subsidiaries, in various countries 809351 | registered Nay be harmful if i Nay cause respira | inhaled. |
| Notes to physician : | Causes damage to exposure if inhaled This product conta | o organs through prolonged or repeated d. ains ethylene glycol. Ethanol decreases the |
| n s s f h p h | hetabolism of ethy hould be adminis evere poisoning s lycol is 3 hours. hours, give the par proof or higher wh hospital. Fomepiz | ylene glycol to toxic metabolites. Ethanol tered as soon as possible in cases of since the elimination half-life of ethylene If medical care will be delayed several tient three to four 1-ounce oral "shots" of 86- iskey before or during transport to the cole (4-methylpyrazole) is an effective |

antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.

5. FIREFIGHTING MEASURES

| Suitable extinguishing media | : | Foam Water spray Carbon dioxide (CO2) Dry chemical |
|---|---|--|
| Unsuitable extinguishing media | : | High volume water jet Halons |
| Specific hazards during | : | Do not use a solid water stream as it may scatter and spread \ddot{c} |
| firefighting | | Tire. Do not allow run-off from fire fighting to enter drains or water courses. |
| Specific extinguishing methods | : | Keep containers and surroundings cool with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. |
| | | Product is compatible with standard fire-fighting agents. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. |

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6. ACCIDENTAL RELEASE MEASURES

| Personal precautions, protective equipment and emergency procedures | Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind. Ensure adequate ventilation. Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet. |
|---|---|
| Environmental precautions | Prevent further leakage or spillage if safe to do so. |
| Methods and materials for containment and cleaning up | Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal. |
| Prevention of secondary | Comply with all applicable federal, state, and local regulations. |
| nazarus | Suppress (knock down) gases/vapours/mists with a water spray jet. |

7. HANDLING AND STORAGE

| Handling Advice on protection against fire and explosion | : Take measures to prevent the build up of electrostatic charge. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Keep product and empty container away from heat and sources of ignition. No sparking tools should be used. Avoid formation of aerosol. |
|--|---|
| Advice on safe handling | Avoid formation of aerosol. Do not breathe vapours or spray mist. Avoid contact with skin and eyes. For personal protection see section 8. Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding the given occupational exposure limits (see section 8). Smoking, eating and drinking should be prohibited in the application area. |

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Ensure all equipment is electrically grounded and bonded before beginning transfer operations.

| Avoidance of contact | : Acids aluminum aluminum chloride Bases Copper Copper alloys halogens iron chloride metal salts strong bases Strong oxidizing agents Peroxides |
|----------------------|--|
| - | |

Storage

Conditions for safe storage

: Store in original container. Keep containers tightly closed in a dry, cool and wellventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Components with workplace control parameters | | | | | |
|--|----------|-------------------------------------|---|--------------|--|
| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis | |
| STYRENE | 100-42-5 | PC-TWA | 50 mg/m3 | GBZ 2.1-2007 | |
| | | PC-STEL | 100 mg/m3 | GBZ 2.1-2007 | |
| METHACRYLIC ACID | 79-41-4 | PC-TWA | 70 mg/m3 | GBZ 2.1-2007 | |
| DIMETHYLANILINE | 121-69-7 | PC-TWA | 5 mg/m3 | GBZ 2.1-2007 | |
| | | PC-STEL | 10 mg/m3 | GBZ 2.1-2007 | |

Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentrati on | Basis |
|------------|----------|---|---------------------|------------------|---|-------------|
| STYRENE | 100-42-5 | mandelic acid plus phenylglyox ylic acid | Urine | End of shift | 400 mg/g Creatinine | ZCN_B EI |
| | | mandelic acid plus phenylglyox ylic acid | Urine | End of shift | 295 Millimoles per mole Creatinine | ZCN_B EI |

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| | mandelic acid plus phenylglyox ylic acid | Urine | Before next shift | 120 Millimoles per mole Creatinine | ZCN_B EI | |
| | mandelic acid plus phenylglyox ylic acid | Urine | Before next shift | 160 mg/g Creatinine | ZCN_B EI | |
| Engineering measures : | Provide sufficier ventilation to ma (from known, su | nt mechanica intain expos spected or a | al (general an sure below lev opparent adve | d/or local exhavel of overexponents effects). | aust) osure | |
| Personal protective equipment Respiratory protection : | When workers a limit they must u | re facing co se appropria | ncentrations a ate certified re | above the exp espirators. | osure | |

| | | In the case of vapour formation use a respirator with an approved filter. |
|----------------------------|---|---|
| Hand protection Remarks | : | Wear resistant gloves such as: Polyvinyl alcohol or nitrile- butyl-rubber gloves The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Eye protection | : | Safety glasses with side-shields |
| Skin and body protection | : | Wear as appropriate: Safety shoes Flame-resistant clothing Impervious clothing Chemical resistant apron Choose body protection according to the amount and |

Hygiene measures: Keep away from food, drink and animal feedingstuffs.
When using do not eat, drink or smoke.
Ensure that eyewash stations and safety showers are close to
the workstation location.

concentration of the dangerous substance at the work place. Discard gloves that show tears, pinholes, or signs of wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical state | : | liquid |
|----------------|---|---------|
| Odour | : | pungent |

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| Odour Threshold | : No data available |
|--|--------------------------------------|
| рН | : Not applicable |
| Melting point/freezing point | : <-30 °C |
| Boiling point/boiling range | : >145 °C |
| Flash point | : 29.4 °C Method: Seta closed cup |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : No data available |
| Upper explosion limit | : 8 %(V) |
| Lower explosion limit | : 1.1 %(V) |
| Vapour pressure | : 6 hPa (20 °C) |
| Relative vapour density | : No data available |
| Relative density | : No data available |
| Density | : ca. 1.15 g/cm3 |
| Solubility(ies) Water solubility | : insoluble |
| Solubility in other solvents | : No data available |
| Partition coefficient: n- octanol/water | : No data available |
| Thermal decomposition | : No data available |
| Viscosity Viscosity, dynamic | : 5,000 mPa.s |
| Viscosity, kinematic | : No data available |
| Oxidizing properties | : No data available |

10. STABILITY AND REACTIVITY

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| Reactivity | decomposition i | f stored and applied as directed. |
|------------------------------------|--|---|
| Chemical stability | able under recom | nmended storage conditions. |
| Possibility of hazardous reactions | able under recom zardous polymen pours may form | nmended storage conditions. risation may occur. explosive mixture with air. |
| Conditions to avoid | at, flames and s posure to air. posure to sunligh | barks. ht. |
| Incompatible materials | ids Iminum Iminum chloride ses Ipper Ipper alloys logens In chloride etal salts ong bases rong oxidizing ag roxides | ents |
| Hazardous decomposition products | drocarbons etone ırbon dioxide (CC ırbon monoxide | 02) |

11. TOXICOLOGICAL INFORMATION

| Exposure routes | : Skin contact, Eye Contact, Ingestion, Inhalation |
|--|---|
| Acute toxicity May be harmful if inhaled. <u>Product:</u> Acute oral toxicity | : Remarks: Ingestion of medications contaminated with diethylene glycol has caused kidney failure and death in humans. Products containing diethylene glycol should be considered toxic by ingestion. |
| Acute dermal toxicity | : Remarks: Skin absorption of this material (or a component) may be increased through injured skin. |
| <u>Components:</u> | |

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| STYRENE: Acute oral toxicity | : | LD50 Oral (Rat) | :> | 2,000 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 11.8 Exposure time: Test atmosphere | 8 m 4 h e: \ | ng/l, 2770 ppm vapour |
| | | No observed ad Exposure time: Test atmosphere | ver 7 h e: \ | rse effect level (Humans): 100 ppm /apour |
| Acute dermal toxicity | : | LD50 (Rat): > 2, Method: OECD Assessment: No dermal toxicity to | ,00 Te: o ac est: | 0 mg/kg st Guideline 402 dverse effect has been observed in acute s. |
| METHACRYLIC ACID: Acute oral toxicity | : | LD50 (Mouse): LD50 (Rat, male Method: OECD | 1,2 e): <i>*</i> Te: | 50 mg/kg 1,320 mg/kg st Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): 7.1 Exposure time: Test atmosphere Method: OECD Assessment: Th inhalation toxicit | mg 4 h e: v Te: ne c ty, c | g/l vapour st Guideline 403 component/mixture is classified as acute category 4. |
| Acute dermal toxicity | : | LD50 (Rabbit): 5 | 500 |) - 1,000 mg/kg |
| DIMETHYLANILINE: Acute oral toxicity | : | LD50 (Rat): 951 Assessment: Th oral toxicity, cate Remarks: Exper Expected based | me ego rt ju l or | g/kg component/mixture is classified as acute ory 3. udgement n components. |
| Acute inhalation toxicity | : | LCLo (Rat): 250 Exposure time: 4 LC50 (Rat): > 5. Exposure time: 4 Test atmosphere |) mg 4 h .1 n 4 h e: \ | g/m3 ng/l /apour |
| Acute dermal toxicity | : | LD50 (Rabbit): 1 | 1,77 | 70 mg/kg |

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| | Assessment: Th dermal toxicity, Remarks: Expe | ne component/mixture is classified as acute category 3. rt judgement |
| COPPER COMPOUND: | | |
| Acute oral toxicity | : LD50 (Rat): 300 Method: OECD Assessment: Th oral toxicity, cat | Test Guideline 420 ne component/mixture is classified as acute egory 4. |
| Acute dermal toxicity | LC50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: No adverse effect has been observed in acute dermal toxicity tests. | |
| ORGANIC COMPOUND: | | > 100 mg/kg |
| Acute oral toxicity | . LD50 (Mouse). | > 400 mg/kg |
| | LD50 (Rat): 754 | 4 mg/kg |
| Acute dermal toxicity | LD50 (Guinea pig): > 1,000 mg/kg Assessment: Not classified as acutely toxic by dermal absorption under GHS. | |
| Skin corrosion/irritation Causes skin irritation. <u>Product:</u> Result: Repeated exposure may cause skin dryness or cracking. Remarks: May cause skin irritation in susceptible persons., Causes severe skin burns and eye damage. | | ss or cracking. persons., Causes severe skin burns and eye |

Result: Repeated exposure may cause skin dryness or cracking.

Components:

STYRENE: Species: Rabbit Result: Irritating to skin.

Species: human skin Result: No skin irritation

METHACRYLIC ACID: Method: OECD Test Guideline 404 Result: Corrosive after 3 minutes or less of exposure

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> DIMETHYLANILINE: Species: Rabbit Method: OECD Test Guideline 404 Result: Slight, transient irritation

> COPPER COMPOUND: Method: OECD Test Guideline 431 Result: Corrosive to skin

ORGANIC COMPOUND: Result: Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation. <u>Product:</u> Remarks: May cause irreversible eye damage.

Components:

STYRENE: Result: Irritating to eyes. Remarks: Vapour during processing may be irritating to the respiratory tract and to the eyes.

METHACRYLIC ACID: Result: Corrosive

DIMETHYLANILINE: Result: Irritating to eyes.

COPPER COMPOUND: Result: Corrosive Method: OECD Test Guideline 405

ORGANIC COMPOUND: Result: Irritating to eyes.

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information. Respiratory sensitisation: Not classified based on available information. Components: STYRENE: Exposure routes: Skin contact Species: Guinea pig Assessment: Does not cause skin sensitisation. Result: negative

Exposure routes: inhalation (vapour) Species: Humans Assessment: Does not cause respiratory sensitisation.

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Result: negative

METHACRYLIC ACID: Test Type: Buehler Test Species: Guinea pig Assessment: Did not cause sensitisation on laboratory animals. Method: OECD Test Guideline 406

COPPER COMPOUND: Test Type: Maximisation Test Species: Guinea pig Result: Does not cause skin sensitisation.

ORGANIC COMPOUND: Exposure routes: Dermal Species: Guinea pig Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity Not classified based on available information. <u>Components:</u> METHACRYLIC ACID: Genotoxicity in vitro : Test Type: Ames test

| | Method: OECD Test Guideline 471 Result: negative |
|----------------------|---|
| | : Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 487 Result: negative |
| Genotoxicity in vivo | Test Type: Mammalian bone marrow sister chromatid exchange Test species: Rat (male) Cell type: Bone marrow Method: OECD Test Guideline 475 Result: negative |
| | Test Type: chromosome aberration assay Test species: Mouse (male) Method: OECD Test Guideline 478 Result: negative |
| | Test Type: chromosome aberration assay Test species: Mouse (male) Cell type: peripheral blood cells |

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| M R | lethod: OECD Teaters esult: negative | st Guideline 474 |
| DIMETHYLANILINE: Genotoxicity in vitro : Ti Ti M M R | est Type: Ames to est species: Salm letabolic activation lethod: OECD Te lesult: negative | est nonella typhimurium n: with and without metabolic activation st Guideline 471 |
| : T T M R | est Type: Chromo est species: Chin letabolic activation esult: positive | osome aberration test in vitro ese hamster ovary cells n: with and without metabolic activation |
| COPPER COMPOUND: Genotoxicity in vitro : T T M M R | est Type: Ames to est species: Salm letabolic activation lethod: OECD Te lesult: negative | est nonella typhimurium n: with and without metabolic activation st Guideline 471 |
| Genotoxicity in vivo : T T A R | est Type: Micronuest species: Moust species: Moust splication Route: lesult: negative | ucleus test se Oral |
| Carcinogenicity Not classified based on available inf <u>Components:</u> DIMETHYLANILINE: Carcinogenicity - : Li | ormation. imited evidence o | f carcinogenicity in animal studies |
| Assessment Reproductive toxicity Not classified based on available inf <u>Components:</u> METHACRYLIC ACID: Effects on fertility : S A Fi 40 S | ormation. pecies: Rat pplication Route: ertility: No observ 00 mg/kg body we | Oral red adverse effect level (Mating/Fertility): eight |
| Effects on foetal : S development A | arameters lethod: OECD Te pecies: Rabbit pplication Route: | st Guideline 416 Oral |

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Developmental Toxicity: No observed adverse effect level F1: 450 mg/kg body weight Symptoms: No specific developmental abnormalities Method: OECD Test Guideline 414

STOT - single exposure May cause respiratory irritation. <u>Components:</u> STYRENE: Assessment: May cause respiratory irritation.

METHACRYLIC ACID: Exposure routes: Inhalation Target Organs: Respiratory Tract Assessment: May cause respiratory irritation.

COPPER COMPOUND: Assessment: May cause respiratory irritation.

STOT - repeated exposure Causes damage to organs (Auditory system) through prolonged or repeated exposure if inhaled. Components: STYRENE: Exposure routes: inhalation (vapour) Target Organs: Auditory system Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity <u>Components:</u> STYRENE: Species: Human 85 mg/m3 Application Route: inhalation (vapour)

Species: Human 615 mg/kg Application Route: Skin contact

METHACRYLIC ACID: Species: Rat, male and female NOAEC: 352 mg/m3 Application Route: inhalation (dust/mist/fume) Exposure time: 90 Days Group: yes Symptoms: Local irritation, Reduced body weight

Aspiration toxicity

May be fatal if swallowed and enters airways.



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Components: STYRENE:

May be fatal if swallowed and enters airways.

Further information Product:

Remarks: Solvents may degrease the skin.

Components:

DIMETHYLANILINE: Remarks: Central nervous system

12. ECOLOGICAL INFORMATION

| Ecotoxicity Components: | | |
|--|---|--|
| STYRENE: | | |
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 4.02 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 4.7 mg/l Exposure time: 48 h |
| Toxicity to algae | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 4.9 mg/l Exposure time: 72 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 1.01 mg/l Exposure time: 21 d |
| Toxicity to bacteria | : | EC50 (activated sludge): ca. 500 mg/l Exposure time: 0.5 h |
| Toxicity to soil dwelling organisms | : | NOEC (Eisenia fetida (earthworms)): 34 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 |
| METHACRYLIC ACID: Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 85 mg/l Exposure time: 96 h Test Type: flow-through test |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 130 mg/l Exposure time: 48 h Test Type: flow-through test |
| | | |

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| Toxicity to algae | : EC50 (Pseudol End point: Bior Exposure time: Test Type: flow Method: OECD | okirchneriella subcapitata (green algae)): 20mg/l omass e: 72 h w-through test D Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : NOEC (Danio r Exposure time: Test Type: flow Method: OECD | e rerio (zebra fish)): 10 mg/l e: 35 d w-through test D Test Guideline 210 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphni Exposure time: Test Type: flow Method: OECD | nia magna (Water flea)): 53 mg/l e: 21 d w-through test D Test Guideline 211 |
| DIMETHYLANILINE: Toxicity to fish | : LC50 (Pimepha Exposure time: Test Type: flow | nales promelas (fathead minnow)): 78.2 mg/l ə: 96 h w-through test |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia Exposure time: Test Type: stat | ia magna (Water flea)): 1.7 - 3.1 mg/l e: 48 h atic test |
| Toxicity to algae | : NOEC (Chlorel End point: Grov Exposure time: Test Type: stat | ella pyrenoidosa (aglae)): 14 mg/l owth inhibition e: 72 h atic test |
| | EC50 (Chlorella End point: Grov Exposure time: Test Type: stat | lla pyrenoidosa (aglae)): 22 mg/l owth inhibition e: 72 h atic test |
| COPPER COMPOUND: Toxicity to fish | : LC50 (Oncorhy Exposure time: Test Type: flow Remarks: Infor similar substan | iynchus mykiss (rainbow trout)): 0.19 mg/l e: 96 h w-through test ormation given is based on data obtained from inces. |
| M-Factor (Short-term (acute) aquatic hazard) | : 10 | |
| M-Factor (Long-term (chronic) aquatic hazard) | : 1 | |

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| ORGANIC COMPOUND: Toxicity to fish : | LC50 (Pimeph Exposure time | ales : 96 l | promelas (fathead minnow)): 0.09 mg/l า |
| Toxicity to daphnia and other : aquatic invertebrates | EC50 (Daphnia Exposure time | a ma : 48 l | gna (Water flea)): 0.19 mg/l า |
| M-Factor (Short-term (acute) : aquatic hazard) | 10 | | |
| No data available Persistence and degradability <u>Components:</u> STYRENE: Biodegradability : | Result: Readily Biodegradatior Exposure time | y bioo n: > 0 : 10 c | degradable. 60 % d |
| METHACRYLIC ACID: Biodegradability : | Inoculum: activ Result: Readily Biodegradatior Exposure time | vated y bioo n: 87 : 28 (| l sludge degradable. 7 % d |
| ORGANIC COMPOUND: Biochemical Oxygen : Demand (BOD) | 940 mg/g Incubation time | e: 5 c | 1 |
| Chemical Oxygen Demand : (COD) | 1,970 mg/g | | |
| BOD/COD : | BOD/COD: 0.4 | 48 % | |
| No data available Bioaccumulative potential <u>Components:</u> STYRENE: Bioaccumulation : | Bioconcentratio | on fa | ctor (BCF): < 100 |
| Partition coefficient: n- : octanol/water | log Pow: 2.96 | (25 ° | C) |
| METHACRYLIC ACID: Bioaccumulation : | Bioconcentration Remarks: Bioa | on fa accun | ctor (BCF): 1.0 nulation is unlikely. |
| Partition coefficient: n- : octanol/water | log Pow: 0.93 | | |

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| DIMETHYLANILINE: Bioaccumulation | : Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 3 - 13 Exposure time: 48 h Method: Static |
|---|--|
| Partition coefficient: n- octanol/water | : log Pow: 2.31 |
| ORGANIC COMPOUND: Partition coefficient: n- octanol/water | : log Pow: 1.58 |
| No data available Mobility in soil <u>Components:</u> STYRENE: Distribution among environmental compartments No data available | : Koc: 352 |
| Other adverse effects | |
| Product: Additional ecological information | : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life., Harmful to aquatic life with long lasting effects. |
| STYRENE: Results of PBT and vPvB assessment | : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB). |

13. DISPOSAL CONSIDERATIONS

| Disposal methods | |
|------------------------|--|
| General advice | The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. |
| Contaminated packaging | Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste |

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handling site for recycling or disposal. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION

International transport regulations

REGULATION

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / |
|-----------|----------------------|------------------|-----------------------|------------------|-----------------------|
| | | | | | LTD. QTY. |

CN_DG

| | - | | | | |
|----|------|----------------|---|-----|--|
| UN | 1866 | RESIN SOLUTION | 3 | III | |
| | | | | | |

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

| UN | 1866 | Resin solution | 3 | III | |
|----|------|----------------|---|-----|--|
| | | | | | |

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

| UN | 1866 | Resin solution | 3 | III | |
|----|------|----------------|---|-----|--|
| | | | | | |

INTERNATIONAL MARITIME DANGEROUS GOODS

| UN | 1866 | RESIN SOLUTION | 3 | | |
|----|------|-----------------------|---|--|--|
| | | | | | |

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on the Control over Safety of Dangerous Chemicals (Decree No. 591 of the State Council of the People's Republic of China)

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List of dangerous goods (GB12268-2012) Classification and code of dangerous goods (GB6944-2012) Safety Data Sheet for chemical products – Content and order of sections (GB16483-2008) General rule for classification and hazard communication of chemicals (GB13690-2009)

The components of this product are reported in the following inventories:

| DSL | : | All components of this product are on the Canadian DSL |
|-------|---|--|
| AICS | : | On the inventory, or in compliance with the inventory |
| ENCS | : | On the inventory, or in compliance with the inventory |
| KECI | : | On the inventory, or in compliance with the inventory |
| PICCS | : | On the inventory, or in compliance with the inventory |
| IECSC | : | On the inventory, or in compliance with the inventory |
| TCSI | : | Not in compliance with the inventory |
| TSCA | : | On TSCA Inventory |

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

16. OTHER INFORMATION

Further information

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Full text of H-Statements

| H226 Flammable liquid and vapour. | |
|---|----------|
| H227 Combustible liquid. | |
| H301 Toxic if swallowed. | |
| H302 Harmful if swallowed. | |
| H303 May be harmful if swallowed. | |
| H304 May be fatal if swallowed and enters | airways. |
| H311 Toxic in contact with skin. | - |

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| H314 | Causes severe skin burns and eye damage. | |
|------|---|--|
| H315 | Causes skin irritation. | |
| H318 | Causes serious eye damage. | |
| H319 | Causes serious eye irritation. | |
| H331 | Toxic if inhaled. | |
| H332 | Harmful if inhaled. | |
| H335 | May cause respiratory irritation. | |
| H351 | Suspected of causing cancer. | |
| H372 | 372 Causes damage to organs through prolonged or repeated exposure if | |
| | inhaled. | |
| H400 | Very toxic to aquatic life. | |
| H401 | Toxic to aquatic life. | |
| H402 | Harmful to aquatic life. | |
| H410 | Very toxic to aquatic life with long lasting effects. | |
| H411 | Toxic to aquatic life with long lasting effects. | |
| | | |

| Other information | : The information accumulated herein is believed to be accurate |
|-------------------|--|
| | company or not. Recipients are advised to confirm in advance |
| | to their circumstances. This SDS has been prepared by INEOS's Environmental Health and Safety Department. |

Sources of key data used to compile the Safety Data Sheet

INEOS internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviationsAU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

CN OEL : China. Occupational Exposure Limits

HK OEL : Hong Kong. Code of Practice on Control of Air Impurities (Chemical Substances) in the Workplace

IN OEL : India. Permissible levels of certain chemical substances in work environment.

ID OEL : Indonesia. Occupational Exposure Limits

JPJSOH OEL : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits

JPISHL OEL : Japan. Administrative Control Levels

KOR OEL : Korea. Occupational Exposure Limits

MY OEL : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health)

NZ OEL : New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

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PH OEL : Philippines. Threshold Limit Values For Airborne Contaminants

SG OEL : Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances

TW OEL : Taiwan. Standards on the Concentration Levels of Hazardous Substances in the Air at Workplace

TH OEL : Thailand. Occupational Exposure Limits

VN OEL : Vietnam. Occupational Exposure Limits

CN / EN