

CRC(NZ) Polyester Filler Repair Kit

CRC Industries (CRC Industries New Zealand)

Chemwatch Hazard Alert Code: 2

Chemwatch: 85-3557

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Safety Data Sheet according to HSNO Regulations

S.GHS.NZLEN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

| | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | CRC(NZ) Polyester Filler Repair Kit |
| Synonyms | Plastic Putty 7001, 7002, 7003, 7004, 7006, 7006E; Builders Fill 7072, 7073, 7074, 7075, 7076; Marine Filler 7083, 7084; Fibre Filler 7064, 7066; Body Filler 7013, 7014; Cyclone 7111; Flag 7105E |
| Proper shipping name | POLYESTER RESIN KIT, liquid base material |
| Other means of identification | Not Available |

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

| | |
|--------------------------|--------------------------------------------------------------------------------------------------------|
| Relevant identified uses | Use according to manufacturer's directions. Repair Filler for Automotive and Building applications. |
|--------------------------|--------------------------------------------------------------------------------------------------------|

Details of the supplier of the safety data sheet

| | |
|-------------------------|-----------------------------------------------------|
| Registered company name | CRC Industries (CRC Industries New Zealand) |
| Address | 10 Highbrook Drive East Tamaki Auckland New Zealand |
| Telephone | +64 9 272 2700 |
| Fax | +64 9 274 9696 |
| Website | www.crc.co.nz |
| Email | customerservices@crc.co.nz |

Emergency telephone number

| | |
|-----------------------------------|----------------------------------------------|
| Association / Organisation | Not Available |
| Emergency telephone numbers | NZ Poisons Centre 0800 POISON (0800 764 766) |
| Other emergency telephone numbers | 111 (NZ Emergency Services) |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

| | |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification ^[1] | Flammable Liquid Category 3, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 5, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Carcinogenicity Category 2, Reproductive Toxicity Category 2, Specific target organ toxicity - repeated exposure Category 2 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |
| Determined by Chemwatch using GHS/HSNO criteria | 3.1C, 6.1D (inhalation), 6.1D (oral), 6.1E (dermal), 6.3A, 6.4A, 6.7B, 6.8B, 6.9B (inhalation) |

Label elements

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

SIGNAL WORD

WARNING

Hazard statement(s)

| | |
|------|--------------------------------------------------------------------|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H313 | May be harmful in contact with skin. |
| H332 | Harmful if inhaled. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Precautionary statement(s) Prevention

| | |
|------|------------------------------------------------------------------------------------------------|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |

Precautionary statement(s) Response

| | |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |
| P370+P378 | In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|----------|-----------|-----------------------------------------|
| | 30-60 | fillers, determined not to be hazardous |
| 100-42-5 | 10-30 | styrene |
| | 10-30 | resin, determined not to be hazardous |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

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|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. |

| | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> ▶ Transport to hospital, or doctor. |
| Ingestion | <ul style="list-style-type: none"> ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Transport to hospital or doctor without delay. |

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to styrene:

INHALATION:

- ▶ Severe exposures should have cardiac monitoring to detect arrhythmia.
- ▶ Catecholamines, especially epinephrine (adrenaline) should be used cautiously (if at all).
- ▶ Aminophylline and inhaled beta-two selective bronchodilators (e.g. salbutamol) are the drugs of choice for treatment of bronchospasm.

INGESTION:

- ▶ Ipecac syrup should be given for ingestions exceeding 3ml (styrene)/kg.
- ▶ For patients at risk of aspiration because of obtundation, intubation should precede lavage.
- ▶ Pneumonitis is a significant risk. Watch the patient closely in an upright (alert patient) or left lateral head-down position (obtunded patient) to reduce aspiration potential. [Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

| Determinant | Index | Sampling Time | Comments |
|----------------------------------|----------------------|---------------------|----------|
| 1. Mandelic acid in urine | 800 mg/gm creatinine | End of shift | NS |
| | 300 mg/gm creatinine | Prior to next shift | NS |
| 2. Phenylglyoxylic acid in urine | 240 mg/gm creatinine | End of shift | NS |
| | 100 mg/gm creatinine | Prior to next shift | |
| 3. Styrene in venous blood | 0.55 mg/L | End of shift | SQ |
| | 0.02 mg/L | Prior to next shift | SQ |

NS: Non-specific determinant; also seen after exposure to other materials.

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

B: Background levels occur in specimens collected from subjects **NOT** exposed

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Incompatibility | <ul style="list-style-type: none"> ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Advice for firefighters

| | |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Liquid and vapour are flammable. ▶ Moderate fire hazard when exposed to heat or flame. ▶ Vapour forms an explosive mixture with air. ▶ Moderate explosion hazard when exposed to heat or flame. <p>Combustion products include:</p> <ul style="list-style-type: none"> , carbon monoxide (CO) , carbon dioxide (CO2) , other pyrolysis products typical of burning organic material. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills | <ul style="list-style-type: none">▶ Remove all ignition sources.▶ Clean up all spills immediately.▶ Avoid breathing vapours and contact with skin and eyes.▶ Control personal contact with the substance, by using protective equipment. |
| Major Spills | <ul style="list-style-type: none">▶ Clear area of personnel and move upwind.▶ Alert Fire Brigade and tell them location and nature of hazard.▶ May be violently or explosively reactive.▶ Wear breathing apparatus plus protective gloves. |

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

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|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling | <ul style="list-style-type: none">▶ Containers, even those that have been emptied, may contain explosive vapours.▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. <p>The substance is a peroxidisable vinyl monomer that may exothermically polymerise as a result of decomposition of accumulated peroxides; that is, the peroxides initiate very energetic polymerisation of the bulk monomer</p> <p>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.</p> <ul style="list-style-type: none">▶ A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date.▶ Avoid all personal contact, including inhalation.▶ Wear protective clothing when risk of overexposure occurs.▶ Use in a well-ventilated area.▶ Prevent concentration in hollows and sumps. |
| Other information | <ul style="list-style-type: none">▶ Store in original containers in approved flammable liquid storage area.▶ Store away from incompatible materials in a cool, dry, well-ventilated area.▶ DO NOT store in pits, depressions, basements or areas where vapours may be trapped.▶ No smoking, naked lights, heat or ignition sources. <p>Easily peroxidisable.</p> <ul style="list-style-type: none">▶ Products formed as a result of peroxidation are not only safety hazards but may chemically alter the chemical behavior of the parent compound.▶ Should have a warning label affixed bearing the date of receipt in the laboratory and the date on which the container label is first opened, or laboratory synthesised materials are the responsibility of the individual chemist.▶ WARNING: This product may form peroxides which themselves are not themselves particularly hazardous but which on decomposition may initiate explosive polymerisation of the bulk monomer (Trommsdorf effect).▶ Storage requires stabilising inhibitor content and dissolved oxygen content to be monitored. Refer to manufacturer's recommended levels.▶ DO NOT overfill containers so as to maintain free head space above product.▶ Blanketing or sparging with nitrogen or oxygen free gas will deactivate stabiliser. <p>Inhibitor level should be regularly checked to maintain stability</p> |

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>WARNING:</p> <p>May decompose violently or explosively on contact with other substances.</p> <ul style="list-style-type: none">▶ This substance, or one of its components, is one of the relatively few compounds which are described as "endothermic" i.e. heat is absorbed into the compound, rather than released from it, during its formation.▶ The majority of endothermic compounds are thermodynamically unstable and may decompose explosively under various circumstances of initiation.▶ Many but not all endothermic compounds have been involved in decompositions, reactions and explosions and, in general, compounds with significantly positive values of standard heats of formation, may be considered suspect on stability grounds.▶ Contamination with polymerisation catalysts - peroxides, persulfates, oxidising agents - also strong acids, strong alkalis, will cause polymerisation with exotherm - generation of heat.▶ Polymerisation of large quantities may be violent - even explosive.▶ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous <p>Styrene:</p> |

- requires inhibition with adequate levels of substituted phenol (such as tert-butylcatechol to prevent polymerisation - material that has had inhibitor removed, e.g. is uninhibited, must be refrigerated and used within 24 hours, i.e. not stored; contact with alkali solutions or glycols will remove inhibitor and render material unstable on storage
- polymerisation may cause container to explode
- polymerisation may be caused by elevated temperatures (above 66 deg C.), butyl lithium, peroxides, UV light, or sunlight
- reacts violently with chlorosulfonic acid, strong oxidisers, sulfuric acid, xenon tetrafluoride
- is incompatible with acids, rust, catalysts for vinyl polymerisation, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane, peroxides, metals salts (e.g., aluminium chloride, copper chlorate, manganese nitrate, etc.)
- corrodes copper and its alloys
- attacks some plastics, rubber or coatings
- flow or agitation may generate electrostatic charges due to low conductivity
- uninhibited monomer vapour may block vents and confined spaces by forming solid polymer

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

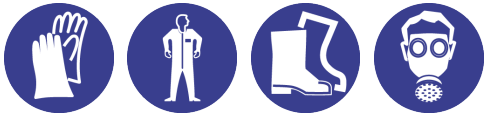
| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------------------------|------------|--------------------------------------------------|--------------------|---------------------|---------------|--------------------------------------------------------------------------------------------------------|
| New Zealand Workplace Exposure Standards (WES) | styrene | Styrene, monomer (Phenylethylene, Vinyl benzene) | 50 ppm / 213 mg/m3 | 426 mg/m3 / 100 ppm | Not Available | 6.7B - Suspected carcinogen; ‡ BEI for this substance currently under review; (skin) - Skin absorption |
| New Zealand Workplace Exposure Standards (WES) | styrene | Phenylethylene (Styrene, monomer) | 50 ppm / 213 mg/m3 | 426 mg/m3 / 100 ppm | Not Available | 6.7A - Confirmed carcinogen; (skin) - Skin absorption |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------|---------------|---------------|---------------|---------------|
| styrene | Styrene | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|------------|---------------|---------------|
| styrene | 700 ppm | Not Available |

Exposure controls

| | |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | <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.</p> |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ Safety glasses with side shields. ▸ Chemical goggles. ▸ 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. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. <ul style="list-style-type: none"> • Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. • For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). • Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. |

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: **"Forsberg Clothing Performance Index"**.
The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:
CRC(NZ) Polyester Filler Repair Kit

| Material | CPI |
|----------------|-----|
| PE/EVAL/PE | A |
| PVA | A |
| TEFLON | A |
| NATURAL RUBBER | C |
| NITRILE | C |
| NITRILE+PVC | C |
| PVC | C |
| SARANEX-23 | C |

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 5 x ES | A-AUS / Class 1 | - | A-PAPR-AUS / Class 1 |
| up to 25 x ES | Air-line* | A-2 | A-PAPR-2 |
| up to 50 x ES | - | A-3 | - |
| 50+ x ES | - | Air-line** | - |

^ - Full-face
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)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| Appearance | Odourless (essentially) non-slum paste/solid; not miscible with water. | | |
|----------------------------------------------|------------------------------------------------------------------------|-----------------------------------------|--------------------------|
| Physical state | Non Slump Paste | Relative density (Water = 1) | 1 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Applicable | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | as per 2.3.2.5 IMDG Code |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | 42 | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Flammable. | 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 (g/L) | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

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| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none">Unstable in the presence of incompatible materials.Product is considered stable.Hazardous polymerisation will not occur. |

| | |
|-------------------------------------------|---------------|
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhaled | <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>If exposure to highly concentrated vapour atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and unless resuscitated - death.</p> |
| Ingestion | <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Styrene is absorbed into the body following oral or inhalation exposure. Its metabolites include styrene oxide, styrene glycol, mandelic acid, benzoic acid, hippuric acid, phenyl glyoxylic acid and possibly vinyl phenol. It is detectable in liver, kidney, pancreas, expired air, urine and faeces in the body.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> |
| Skin Contact | <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time.</p> <p>Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> |
| Eye | <p>There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.</p> |
| Chronic | <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Exposure to styrene may aggravate central nervous system disorders, chronic respiratory disease, skin disease, kidney disease and liver disease. Exposure to styrene at work causes effects on the nervous system.</p> |

| | | |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| CRC(NZ) Polyester Filler Repair Kit | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| styrene | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye (rabbit): 100 mg/24h - moderate |
| | Inhalation (rat) LC50: 11.8 mg/l/4H ^[2] | Eye (rabbit): 100 mg/24h - moderate |
| | Oral (rat) LD50: 2650 mg/kg ^[2] | Skin (rabbit): 500 mg - mild |
| | | Skin (rabbit): 500 mg - mild |
| 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 | |

| | |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STYRENE | <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p> |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

Legend: ✗ – Data available but does not fill the criteria for classification

✔ – Data available to make classification

⊗ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| CRC(NZ) Polyester Filler Repair Kit | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|-------------------------------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| styrene | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---------|----------|--------------------|-------------------------------|-----------|--------|
| | LC50 | 96 | Fish | 4.02mg/L | 4 |
| | EC50 | 48 | Crustacea | ≈4.7mg/L | 1 |
| | EC50 | 96 | Algae or other aquatic plants | 0.72mg/L | 4 |
| | EC10 | 96 | Algae or other aquatic plants | ≈0.13mg/L | 1 |
| | NOEC | 96 | Algae or other aquatic plants | 0.063mg/L | 4 |

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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*

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

For styrene:

Transport: Styrene is expected to volatilise from surface waters, and is also removed from waters by adsorption onto soils and sediments. Under certain conditions, styrene may leach through soil (particularly sandy soils) and enter ground water.

Transformation/Persistence: Air - In the atmosphere, styrene reacts with both hydroxyl radicals and ozone with estimated half-lives of 3.5 and 9 hours, respectively. The chemical is also degraded in the presence of NOX and natural sunlight.

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below). Most are reactive with environmental ozone and many produce stable products which are thought to adversely affect human health. The potential for surfaces in an enclosed space to facilitate reactions should be considered.

| | | |
|----------------------------------|---------------------------------------------|---------------------------------------------------------------|
| Source of unsaturated substances | Unsaturated substances (Reactive Emissions) | Major Stable Products produced following reaction with ozone. |
|----------------------------------|---------------------------------------------|---------------------------------------------------------------|

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-----------------------------|----------------------------|
| styrene | HIGH (Half-life = 210 days) | LOW (Half-life = 0.3 days) |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|-----------------|
| styrene | LOW (BCF = 77) |

Mobility in soil

| Ingredient | Mobility |
|------------|-------------------|
| styrene | LOW (KOC = 517.8) |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| Product / Packaging disposal | <ul style="list-style-type: none"> Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.

The package must be disposed according to the manufacturer's directions taking into account the material it is made of.

Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|------------------|-----------------------------------------------------------------------------------|
| |  |
| Marine Pollutant | NO |
| HAZCHEM | •2YE |

Land transport (UN)

| | |
|------------------------------|---------------------------------------------------------|
| UN number | 3269 |
| UN proper shipping name | POLYESTER RESIN KIT, liquid base material |
| Transport hazard class(es) | Class : 3 Subrisk : Not Applicable |
| Packing group | III |
| Environmental hazard | Not Applicable |
| Special precautions for user | Special provisions : 236; 340 Limited quantity : 5 L |

Air transport (ICAO-IATA / DGR)

| | |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN number | 3269 |
| UN proper shipping name | Polyester resin kit liquid base material |
| Transport hazard class(es) | ICAO/IATA Class : 3 ICAO / IATA Subrisk : Not Applicable ERG Code : 3L |
| Packing group | III |
| Environmental hazard | Not Applicable |
| Special precautions for user | Special provisions : A66 A163 Cargo Only Packing Instructions : 370 Cargo Only Maximum Qty / Pack : 10 kg Passenger and Cargo Packing Instructions : 370 Passenger and Cargo Maximum Qty / Pack : 10 kg Passenger and Cargo Limited Quantity Packing Instructions : Y370 Passenger and Cargo Limited Maximum Qty / Pack : 5 kg |

Sea transport (IMDG-Code / GGVSee)

| | |
|-----------|------|
| UN number | 3269 |
|-----------|------|

| | | | |
|------------------------------|-------------------------------------------|----------------|--|
| UN proper shipping name | POLYESTER RESIN KIT, liquid base material | | |
| Transport hazard class(es) | IMDG Class | 3 | |
| | IMDG Subrisk | Not Applicable | |
| Packing group | III | | |
| Environmental hazard | Not Applicable | | |
| Special precautions for user | EMS Number | F-E , S-D | |
| | Special provisions | 236 340 | |
| | Limited Quantities | 5 L | |

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

This substance is to be managed using the conditions specified in an applicable Group Standard

| HSR Number | Group Standard |
|------------|---------------------------------------------------------------|
| HSR002544 | Construction Products (Subsidiary Hazard) Group Standard 2017 |

STYRENE(100-42-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Quantity beyond which controls apply for closed containers | Quantity beyond which controls apply when use occurring in open containers |
|--------------|------------------------------------------------------------|----------------------------------------------------------------------------|
| 3.1C | 500 L in containers greater than 5 L | 250 L |
| | 1500 L in containers up to and including 5 L | 250 L |

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Class of substance | Quantities |
|--------------------|----------------|
| Not Applicable | Not Applicable |

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

| National Inventory | Status |
|-------------------------------|-------------|
| Australia - AICS | Y |
| Canada - DSL | Y |
| Canada - NDSL | N (styrene) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | Y |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | Y |
| USA - TSCA | Y |

Legend:*Y = All ingredients are on the inventory**N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)***SECTION 16 OTHER INFORMATION**

| | |
|----------------------|---------------|
| Revision Date | 12/09/2017 |
| Initial Date | Not Available |

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.

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

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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