# RESTOFINISH POLYPRIMER HARDENER - PART B

## RestoFinish (C/- Paint Smart Group NZ)

Chemwatch Hazard Alert Code: **3**

Chemwatch: **5676-75**
Version No: **2.1**
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: **14/08/2024**
Print Date: **15/08/2024**
L.GHS.NZL.EN.E

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

### Product Identifier

| | |
|---|---|
| **Product name** | RESTOFINISH POLYPRIMER HARDENER - PART B |
| **Chemical Name** | Not Applicable |
| **Synonyms** | 011-0182 / 011-0194 |
| **Proper shipping name** | ORGANIC PEROXIDE TYPE D, LIQUID |
| **Chemical formula** | Not Applicable |
| **Other means of identification** | Not Available |

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

| | |
|---|---|
| **Relevant identified uses** | Hardener for RESTO FINISH Polyprimer - Part A<br>Use according to manufacturer's directions. |

### Details of the manufacturer or supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | **RestoFinish (C/- Paint Smart Group NZ)** |
| **Address** | 10 Barberry Street Judea,Tauranga 3110 New Zealand |
| **Telephone** | 07 571 8921\|+61 2 4321 0339 |
| **Fax** | Not Available |
| **Website** | www.restofinish.com.au/ www.paintsmart.co.nz |
| **Email** | admin@paintsmart.co.nz |

### Emergency telephone number

| | |
|---|---|
| **Association / Organisation** | **RestoFinish (C/- Paint Smart Group NZ)** |
| **Emergency telephone numbers** | 0800 764766 |
| **Other emergency telephone numbers** | 111 (24/7) |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

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|---|---|
| **Classification [1]** | Organic Peroxides Type D, Acute Toxicity (Oral) Category 4, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 1B, Sensitisation (Skin) Category 1, Acute Toxicity (Inhalation) Category 3 |
| ***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** | 5.2D, 6.1C (inhalation), 6.1D (oral), 6.1E (aspiration), 8.2B, 6.5B (contact) |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |
| **Signal word** | **Danger** |

### Hazard statement(s)

| | |
|---|---|
| **H242** | Heating may cause a fire. |
| **H302** | Harmful if swallowed. |
| **H304** | May be fatal if swallowed and enters airways. |
| **H314** | Causes severe skin burns and eye damage. |
| **H317** | May cause an allergic skin reaction. |
| **H331** | Toxic if inhaled. |

### Precautionary statement(s) Prevention

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |

| | |
|---|---|
| **P234** | Keep only in original packaging. |
| **P235** | Keep cool. |
| **P240** | Ground and bond container and receiving equipment. |
| **P260** | Do not breathe mist/vapours/spray. |
| **P264** | Wash all exposed external body areas thoroughly after handling. |
| **P271** | Use only outdoors or in a well-ventilated area. |
| **P280** | Wear protective gloves, protective clothing, eye protection and face protection. |
| **P270** | Do not eat, drink or smoke when using this product. |
| **P272** | Contaminated work clothing should not be allowed out of the workplace. |

### Precautionary statement(s) Response

| | |
|---|---|
| **P301+P310** | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider. |
| **P301+P330+P331** | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious). |
| **P303+P361+P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| **P305+P351+P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| **P370+P378** | In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish. |
| **P302+P352** | IF ON SKIN: Wash with plenty of water and soap. |
| **P363** | Wash contaminated clothing before reuse. |
| **P304+P340** | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| **P333+P313** | If skin irritation or rash occurs: Get medical advice/attention. |
| **P362+P364** | Take off contaminated clothing and wash it before reuse. |
| **P301+P312** | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell. |

### Precautionary statement(s) Storage

| | |
|---|---|
| **P403+P233** | Store in a well-ventilated place. Keep container tightly closed. |
| **P405** | Store locked up. |
| **P411** | Store at temperatures not exceeding ...°C/...°F. |
| **P410** | Protect from sunlight. |

### Precautionary statement(s) Disposal

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

## SECTION 3 Composition / information on ingredients

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No | %[weight] | Name |
|---|---|---|
| 131-11-3 | 50-70 | dimethyl phthalate |
| 1338-23-4 | 20-30 | methyl ethyl ketone peroxide |
| 123-42-2 | 10-20 | diacetone alcohol |
| *Legend:* | ***1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available*** | |

## SECTION 4 First aid measures

### Description of first aid measures

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Immediately hold the eyelids apart and flush the eye with 2% sodium carbonate solution or 5% sodium ascorbate solution then wash continuously for at least 15 minutes with fresh running water.<br>▸ 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.<br>▸ Transport to hospital (or doctor) without further delay.<br>▸ Removal of contact lenses should only be undertaken by trained personnel. |
| **Skin Contact** | If skin or hair contact occurs:<br>▸ Immediately flush body and clothes with large amounts of water, using safety shower if available.<br>▸ Quickly remove all contaminated clothing, including footwear.<br>▸ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.<br>▸ Transport to hospital, or doctor. |
| **Inhalation** | ▸ If fumes or combustion products are inhaled remove from contaminated area.<br>▸ Lay patient down. Keep warm and rested.<br>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.<br>▸ 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.<br>▸ Transport to hospital, or doctor, without delay.<br>▸ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.<br>▸ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).<br>▸ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.<br>▸ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. |

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| | |
|---|---|
| | **This must definitely be left to a doctor or person authorised by him/her.**<br>(ICSC13719) |
| **Ingestion** | - For advice, contact a Poisons Information Centre or a doctor at once.<br>- Urgent hospital treatment is likely to be needed.<br>- If swallowed do **NOT** induce vomiting.<br>- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>- Observe the patient carefully.<br>- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.<br>- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.<br>- Transport to hospital or doctor without delay.<br>- Avoid giving milk or oils.<br>- Avoid giving alcohol.<br>- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. |

### Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.
Treat symptomatically.

## SECTION 5 Firefighting measures

### Extinguishing media

FOR SMALL FIRE:
- Water spray, foam, CO2 or dry chemical.
- **DO NOT** use water jets.

FOR LARGE FIRE:
- Flood fire area with water from a distance.

### Special hazards arising from the substrate or mixture

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|---|---|
| **Fire Incompatibility** | - Avoid storage with reducing agents.<br>- Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous |

### Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | - Alert Fire Brigade and tell them location and nature of hazard.<br>- May be violently or explosively reactive.<br>- Wear breathing apparatus plus protective gloves in the event of a fire.<br>- Prevent, by any means available, spillage from entering drains or water courses.<br>- Consider evacuation (or protect in place).<br>- Fight fire from a safe distance, with adequate cover.<br>- Extinguishers should be used only by trained personnel.<br>- Use water delivered as a fine spray to control fire and cool adjacent area.<br>- Avoid spraying water onto liquid pools.<br>- **DO NOT** approach containers suspected to be hot.<br>- Cool fire exposed containers with water spray from a protected location.<br>- If safe to do so, remove containers from path of fire.<br>- If fire gets out of control withdraw personnel and warn against entry.<br>- Equipment should be thoroughly decontaminated after use. |
| **Fire/Explosion Hazard** | - Will not burn but increases intensity of fire.<br>- May explode from friction, shock, heat or containment.<br>- Heating may cause expansion or decomposition leading to violent rupture of containers.<br>- Heat affected containers remain hazardous.<br>- Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.<br>- May emit irritating, poisonous or corrosive fumes.<br>- Combustion/decomposition may produce acrid/toxic fumes of carbon monoxide (CO).<br>Decomposes on heating and produces acrid and toxic fumes of:<br>Combustion products include:<br>carbon dioxide (CO2)<br>nitrogen oxides (NOx)<br>other pyrolysis products typical of burning organic material.<br>- Organic peroxides provide internal oxygen for combustion, so burn intensely.<br>- Simple smothering actions are not effective against established fires.<br>NOTE: A Type D Organic Peroxide:<br>- may partially detonate<br>- does not deflagrate rapidly and<br>- shows no violent effect when heated under confinement |

## 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** | Environmental hazard - contain spillage.<br>- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.<br>- Check regularly for spills and leaks.<br>Slippery when spilt.<br>- Clean up all spills immediately. |

**Continued...**

- No smoking, naked lights, ignition sources.
- Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.
- Avoid breathing dust or vapours and all contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.
- Contain and absorb spill with dry sand, earth, inert material or vermiculite.
- **DO NOT** use sawdust as fire may result.
- Scoop up solid residues and seal in labelled drums for disposal.
- Neutralise/decontaminate area.

**Major Spills**

Environmental hazard - contain spillage.
Chemical Class: peroxides
For release onto land: recommended sorbents listed in order of priority.

| SORBENT TYPE | RANK | APPLICATION | COLLECTION | LIMITATIONS |
|---|---|---|---|---|
| LAND SPILL - SMALL | | | | |
| cross-linked polymer - particulate | 1 | shovel | shovel | R, W, SS |
| cross-linked polymer - pillow | 1 | throw | pitchfork | R, DGC, RT |
| sorbent clay - particulate | 2 | shovel | shovel | R,I, P |
| foamed glass - pillow | 2 | throw | pitchfork | R, P, DGC, RT |
| LAND SPILL - MEDIUM | | | | |
| cross-linked polymer - particulate | 1 | blower | skiploader | R,W, SS |
| sorbent clay - particulate | 2 | blower | skiploader | R, I, P |
| polypropylene - particulate | 2 | blower | skiploader | W, SS, DGC |
| expanded mineral - particulate | 3 | blower | skiploader | R, I, W, P, DGC |
| polypropylene - mat | 4 | throw | skiploader | DGC, RT |

Legend
DGC: Not effective where ground cover is dense
R; Not reusable
I: Not incinerable
P: Effectiveness reduced when rainy
RT:Not effective where terrain is rugged
SS: Not for use within environmentally sensitive sites
W: Effectiveness reduced when windy
Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;
R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988
Slippery when spilt.

- 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 full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- No smoking, flames or ignition sources.
- Increase ventilation.
- Contain spill with sand, earth or other clean, inert materials.
- **NEVER** use organic absorbents such as sawdust, paper, cloth; as fire may result.
- Avoid any contamination by organic matter.
- Use spark-free and explosion-proof equipment.
- Collect any recoverable product into labelled containers for possible recycling.
- **DO NOT** mix fresh with recovered material.
- Collect residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- Decontaminate equipment and launder all protective clothing before storage and re-use.
- If contamination of drains or waterways occurs advise emergency services.

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

## SECTION 7 Handling and storage

### Precautions for safe handling

**Safe handling**

- **DO NOT USE** brass or copper containers / stirrers
- **DO NOT** allow clothing wet with material to stay in contact with skin

For oxidisers, including peroxides.
· Avoid personal contact and inhalation of dust, mist or vapours.
· Provide adequate ventilation.
· Always wear protective equipment and wash off any spillage from clothing.
· Keep material away from light, heat, flammables or combustibles.
· Keep cool, dry and away from incompatible materials.
· Avoid physical damage to containers.
· **DO NOT** repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use.
· Use only minimum quantity required.
· Avoid using solutions of peroxides in volatile solvents. Solvent evaporation should be controlled to avoid dangerous concentration of the peroxide.
· Do NOT allow oxidisers to contact iron or compounds of iron, cobalt, or copper, metal oxide salts, acids or bases.
· Do NOT use metal spatulas to handle oxidisers
· Do NOT use glass containers with screw cap lids or glass stoppers.
· Store peroxides at the lowest possible temperature, consistent with their solubility and freezing point.
· CAUTION: Do NOT store liquids or solutions of peroxides at a temperature below that at which the oxidiser freezes or precipitates. Peroxides, in particular, in this form are extremely shock and heat-sensitive. Refrigerated storage of peroxides must ONLY be in explosion-proof units.
· The hazards and consequences of fires and explosions during synthesis and use of oxidisers is widely recognised; spontaneous or induced decomposition may culminate in a variety of ways, ranging from moderate gassing to spontaneous ignition or explosion. The heat released from spontaneous decomposition of an energy-rich compound causes a rise in the surrounding temperature; the temperature will rise until thermal balance is established or until the material heats to decomposition,

**Continued...**

· The most effective means for minimising the consequences of an accident is to limit quantities to a practical minimum. Even gram-scale explosions can be serious. Once ignited the burning of peroxides cannot be controlled and the area should be evacuated.
· Unless there is compelling reason to do otherwise, peroxide concentration should be limited to 10% (or less with vigorous reactants). Peroxide concentration is rarely as high as 1% in the reaction mixture of polymerisation or other free-radical reactions,
· Oxidisers should be added slowly and cautiously to the reaction medium. This should be completed prior to heating and with good agitation.
· Addition oxidisers to the hot monomer is extremely dangerous. A violent reaction (e.g., fire or explosion) can result from inadvertent mixing of promoters (frequently used with peroxides in polymerisation systems) with full-strength oxidisers
· Organic peroxides are very sensitive to contamination (especially heavy-metal compounds, metal oxide salts, alkaline materials including amines, strong acids, and many varieties of dust and dirt). This can initiate rapid, uncontrolled decomposition of peroxides and possible generation of intense heat, fire or explosion The consequences of accidental contamination from returning withdrawn material to the storage container can be disastrous.
· When handling **NEVER** smoke, eat or drink.
· Always wash hands with soap and water after handling.
· Use only good occupational work practice.
· Observe manufacturer's storage and handling recommendations contained within this SDS.

**Other information**

- Store in original containers in an isolated approved flammable materials storage area.
- Keep containers securely sealed as supplied.
- **WARNING:** Gradual decomposition during storage in sealed containers may lead to a large pressure build-up and subsequent explosion.
- No smoking, naked lights, heat or ignition sources.
- Store in a cool, dry, well ventilated area.
- Store under cover and away from sunlight.
- Store below safe storage (control) temperature. Always store below 35 deg.C.
- Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.
- Store away from incompatible materials.
- Store away from foodstuff containers
- **DO NOT** stack on wooden floors or wooden pallets.
- Protect containers against physical damage.
- Check regularly for spills and leaks.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Keep locked up.
- Restrictions may apply on quantities and to other materials permitted in the same location.

**FOR MINOR QUANTITIES**:
Ensure that:

- packages are not opened in storage area,
- the goods are kept at least 3 metres from sources of heat as well as all other dangerous goods and all other materials which might react with this material might react to cause a fire, a chemical reaction or explosion,
- materials for absorbing and neutralising spills are kept near the storage;
- procedures are displayed at the storage describing actions to be taken in the event of a spill or fire.
- adequate numbers and types of portable fire extinguisher are provided in or near the storage area.

**FOR PACKAGE STORAGE**:

- If the material is stored in an indoor fireproof cabinet, the cabinet must be vented to outside the building containing the cabinet.
- Packages must be protected from exposure to weather unless the packages are: (i) sole packages of more than 20 l capacity (ii) of metallic or plastic construction (iii) securely closed and are not to be opened in the storage area (iv) stored in such a manner that rain water, contaminated with the material, is collected and disposed of safely.
- Packages must **NOT** be located in a basement or other place below ground level.
- The store has a smooth non-combustible floor or a floor coated to prevent impregnation by the material.
- There are no open drains, traps, tunnels or pits under the floor where molten material might collect or be confined.
- Drainage must be provided so that in the event of fire, molten material may be collected and confined.
- Drainage and kerbing must be provided so that in the event of fire, molten material will flow clear of buildings and other storage areas.
- Pallets and dunnage used to store the material must be coated to prevent impregnation
- Materials for absorbing and neutralising spills must be kept near the storage.
- Adequate portable fire extinguishers are provided.
- Ensure proper stock-control measures are maintained to prevent prolonged storage of dangerous goods.

### Conditions for safe storage, including any incompatibilities

**Suitable container**

- Metal packagings meeting the test criteria of Packing Group I, must **NOT** be used; this avoids unnecessary confinement.
- Packagings for organic peroxides must be constructed so that none of the materials, which are in contact with the contents, will catalyse or otherwise dangerously affect the properties of their contents.
- For combination packages, cushioning materials must not be readily combustible and must **NOT** cause decomposition of the organic peroxide if leakage occurs.
- Generally only stainless steel 316, polyethylene or glass lined equipment is suitable for use when working with organic peroxides.

NOTE: Dangerous decomposition reactions may occur at or above the SADT (self-accelerating decomposition temperature).Under certain circumstances explosion or fire may result. Contact with incompatible substances may cause decomposition at or below the SADT.

- Some plastics may be incompatible with this material, check with manufacturer for storage suitability.
- **DO NOT** repack. Use containers supplied by manufacturer only.
- Check that containers are clearly labelled
- Type D Liquid Organic Peroxides, UN 3105, UN 3115 are to be packed to the requirements of Packing method OP7A of the ADG Code, with maximum mass of 50 kg. or 60 l. volume.
- Plastic drum / container or plastic inner receptacle in fibre-board, or metal outer container.

**Storage incompatibility**

- As a class, organic peroxides are amongst the most hazardous materials commonly used in the workplace or laboratory. Several are highly flammable and extremely sensitive to shock, heat, spark, friction, impact and light and readily react with strong oxidising and reducing agents.
- Organic compounds, especially finely divided materials, can ignite on contact with concentrated peroxides.
- Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides.
- Separate from mineral acids, strong alkalis, paint driers, polyester or FRP resin accelerators, promoters, amines,aluminium, zinc, cast iron, copper and brass, lead, manganese, vanadium, cobalt, mercury.
- There are few chemical classes that do not at least produce heat when mixed with peroxides.
- Many peroxide reactions produce explosions or generate gases (toxic and nontoxic).
- Generally dilute solutions of peroxides are safe but the presence of a transition metal (such as cobalt, iron, manganese, nickel or vanadium) as an impurity may cause rapid decomposition with a build-up of heat, and even explosion.
- Solutions of peroxides often become explosive when evaporated to dryness or near-dryness.
- Each peroxide compound is characterised by specific, condition-dependent rate of composition. A change in conditions (e.g., increased temperature) can cause the rate of decomposition to auto-accelerate, culminating in violent explosion.
- Most organic peroxides (especially lower molecular weight compounds) are unstable and should not be stored at temperatures exceeding 30 degrees C - shelf life is usually inversely related to storage temperature.
- Lower molecular weight members of the group are unstable and prone to explode when heated or treated with organic acids.
- Peroxide sensitivity may be related to heat of decomposition, activation energy and reaction kinetics. Some peroxides that are usually regarded as being relatively innocuous may become highly hazardous under certain conditions.

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- The potential energy of organic peroxides is low compared with that of conventional explosives but high enough to be very hazardous.
- Incidents involving interaction of active oxidants and reducing agents, either by design or accident, are usually very energetic and examples of so-called redox reactions.
- Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous
- Peroxides decompose over time and give off oxygen.
- Peroxides require controlled storage for stability.
- **DANGER**: Explosion hazard, never mix peroxides with accelerators or promoters.
- Avoid storage with reducing agents.

## 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) | dimethyl phthalate | Dimethylphthalate | 5 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | methyl ethyl ketone peroxide | Methyl ethyl ketone peroxide | Not Available | Not Available | 0.2 ppm / 1.5 mg/m3 | Not Available |
| New Zealand Workplace Exposure Standards (WES) | diacetone alcohol | Diacetone alcohol (4-Hydroxy-4- methyl-2-pentanone) | 50 ppm / 238 mg/m3 | Not Available | Not Available | Not Available |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| dimethyl phthalate | 15 mg/m3 | 1,600 mg/m3 | 9300* mg/m3 |
| methyl ethyl ketone peroxide | 1.8 ppm | 20 ppm | 22 ppm |
| diacetone alcohol | 150 ppm | 350 ppm | 2100* ppm |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| dimethyl phthalate | 2,000 mg/m3 | Not Available |
| methyl ethyl ketone peroxide | Not Available | Not Available |
| diacetone alcohol | Not Available | Not Available |

**MATERIAL DATA**

### Exposure controls

**Appropriate engineering controls**

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.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
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.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.
An approved self contained breathing apparatus (SCBA) may be required in some situations.
Provide adequate ventilation in warehouse or closed storage area. 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.

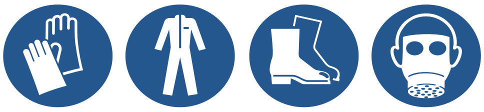
| Type of Contaminant: | Air Speed: |
|---|---|
| solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min.) |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, 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.) |

Within each range the appropriate value depends on:

| 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 |

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.

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



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|---|---|
| **Eye and face protection** | - Chemical goggles.<br>- Full face shield may be required for supplementary but never for primary protection of eyes.<br>- 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], [AS/NZS 1336 or national equivalent] |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | - Wear chemical protective gloves, e.g. PVC.<br>- Wear safety footwear or safety gumboots, e.g. Rubber<br>- When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.<br>**NOTE:**<br>- 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.<br>- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.<br>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.<br>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.<br>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.<br>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:<br>· frequency and duration of contact,<br>· chemical resistance of glove material,<br>· glove thickness and<br>· dexterity<br>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).<br>· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.<br>· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.<br>· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.<br>· Contaminated gloves should be replaced.<br>As defined in ASTM F-739-96 in any application, gloves are rated as:<br>· Excellent when breakthrough time > 480 min<br>· Good when breakthrough time > 20 min<br>· Fair when breakthrough time < 20 min<br>· Poor when glove material degrades<br>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.<br>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.<br>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.<br>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:<br>· Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.<br>· Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential<br>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.<br>- Polyethylene gloves<br>- **DO NOT** wear cotton or cotton-backed gloves.<br>- **DO NOT** wear leather gloves.<br>- Promptly hose all spills off leather shoes or boots or ensure that such footwear is protected with PVC over-shoes. |
| **Body protection** | See Other protection below |
| **Other protection** | - Overalls.<br>- PVC Apron.<br>- PVC protective suit may be required if exposure severe.<br>- Eyewash unit.<br>- Ensure there is ready access to a safety shower.<br>- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.<br>- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).<br>- 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 an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return. |

### 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:
RESTOFINISH POLYPRIMER HARDENER - PART B

| Material | CPI |
|---|---|
| NEOPRENE | A |
| BUTYL | C |
| NATURAL RUBBER | C |
| NITRILE | C |

### Respiratory protection

Type A-P 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 10 x ES | A-AUS P2 | - | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES | - | A-AUS / Class 1 P2 | - |

Continued...

| | |
|---|---|
| PVA | C |
| VITON | 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.

### Ansell Glove Selection

| **Glove** — *In order of recommendation* |
|---|
| AlphaTec 02-100 |
| AlphaTec® 15-554 |
| AlphaTec® Solvex® 37-185 |
| AlphaTec® 58-008 |
| AlphaTec® 58-530B |
| AlphaTec® 58-530W |
| AlphaTec® 58-735 |
| AlphaTec® 79-700 |
| AlphaTec® Solvex® 37-675 |
| AlphaTec® 38-612 |

***The suggested gloves for use should be confirmed with the glove supplier.***

| | | | |
|---|---|---|---|
| up to 100 x ES | - | A-2 P2 | A-PAPR-2 P2 ^ |

^ - 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.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Clear liquid with characteristic odour; does not mix with water. |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 1.1 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Applicable |
| **pH (as supplied)** | 7 | **Decomposition temperature (°C)** | Not Applicable |
| **Melting point / freezing point (°C)** | Not Available | **Viscosity (cSt)** | 11 |
| **Initial boiling point and boiling range (°C)** | Not Available | **Molecular weight (g/mol)** | Not Applicable |
| **Flash point (°C)** | Not Applicable | **Taste** | Not Available |
| **Evaporation rate** | Not Available | **Explosive properties** | Not Available |
| **Flammability** | Not Applicable | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | Not Applicable | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | Not Applicable | **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** | 188 |

## SECTION 10 Stability and reactivity

| | |
|---|---|
| **Reactivity** | See section 7 |
| **Chemical stability** | Unstable in the presence of incompatible materials.<br>Product is considered stable under normal handling conditions.<br>Prolonged exposure to heat.<br>Hazardous polymerisation will not occur.<br>Presence of shock and friction<br>Presence of heat source and ignition source |
| **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

**Continued...**

## Information on toxicological effects

**Inhaled**

Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by inhalation.
Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.
Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severe damage to the health of the individual. Relatively small amounts absorbed through the lungs may prove fatal.
Diacetone alcohol is primarily a narcotic and anticonvulsive. Inhalation exposure of mice rats, rabbits and cats at 2100 ppm for 1-3 hours produced somnolence after a period of restlessness and excitability and mucous membrane irritation. Symptoms of intoxication (narcosis) are rapidly decreasing respiration, marked decrease in blood pressure, relaxation of muscles and absence of conjunctival reflexes
Inhalation hazard is increased at higher temperatures.
Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.
Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.

**Ingestion**

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.
The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by swallowing.

**Skin Contact**

The material can produce chemical burns following direct contact with the skin.

Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by skin contact.
Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Skin contact will result in rapid drying, bleaching, leading to chemical burns on prolonged contact

**Eye**

The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.

**Chronic**

Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.
Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure.
Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.
Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance who are likely to become hyper-responsive.
Substances than can cuase occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing air-way hyper-responsiveness. The latter substances are not classified as asthmagens or respiratory sensitisers
Wherever it is reasonably practicable, exposure to substances that can cuase occupational asthma should be prevented. Where this is not possible the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive.
Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance.
Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.

Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, generally on the basis that results in appropriate animal studies provide strong suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects.
On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.
Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.
Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

**RESTOFINISH POLYPRIMER HARDENER - PART B**

| TOXICITY | IRRITATION |
|---|---|
| Not Available | Not Available |

**dimethyl phthalate**

| TOXICITY | IRRITATION |
|---|---|
| dermal (rat) LD50: >4800 mg/kg[2] | Eye (rabbit): 119 mg |
| Oral (Rat) LD50: 5120 mg/kg[2] | Eye: no adverse effect observed (not irritating)[1] |
|  | Skin: no adverse effect observed (not irritating)[1] |

**methyl ethyl ketone peroxide**

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: 4000 mg/kg[1] | Eye: adverse effect observed (irritating)[1] |
| Inhalation (Mouse) LC50: 2.5 mg/L4h[2] | Eyes (rabbit) 3 mg Irritant |
| Oral (Mouse) LD50; 250 mg/kg[2] | Skin (rabbit) 500mg Irritant |

**Continued...**

| | | |
|---|---|---|
| | | Skin: adverse effect observed (corrosive)[1] |

| | TOXICITY | IRRITATION |
|---|---|---|
| **diacetone alcohol** | Dermal (rabbit) LD50: 13500 mg/kg[2] | Eye (human): 100 ppm/15 mins. |
| | Oral (Rat) LD50: 2520 mg/kg[2] | Eye (rabbit): 5 mg SEVERE |
| | | Eye: adverse effect observed (irritating)[1] |
| | | Skin (rabbit): 500 mg open mild |
| | | Skin: adverse effect observed (irritating)[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*** |

**DIMETHYL PHTHALATE**

Bacterial mutagen Reproductive effector in rats
Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.
The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited, cytoplasmic organelles that are found in the cells of animals, plants, fungi and protozoa. Peroxisome proliferators include certain hypolipidaemic drugs, phthalate ester plasticisers, industrial solvents, herbicides, food flavours, leukotriene D4 antagonists and hormones. Numerous studies in rats and mice have demonstrated the hepatocarcinogenic effects of peroxisome proliferators, and these compounds have been unequivocally established as carcinogens. However it is generally conceded that compounds inducing proliferation in rats and mice have little, if any, effect on human liver except at very high doses or extreme conditions of exposure.
For low molecular weight phthalate esters)
**Acute toxicity:** Dimethyl phthalate (DMP) and diethyl phthalate (DEP) exhibit low acute toxicity by oral, dermal and inhalation routes of exposure. Although acute oral toxicity data on DEP are based on older, inadequate studies by current guidelines, the lack of lethality at doses > 5 g/kg/ day is consistent with that seen with other phthalate esters and subchronic studies on DEP.
**Repeated Dose Toxicity.** High dietary doses (5 % or -3,750 mg/ kg/ day) of DEP resulted in decreased body weights and tissue weights; no effects were seen in males at 1 % (-750 mg/ kg/ day) or in females at 0.2 % (~150 mg/ kg/ day). These results are similar to that seen following dermal administration of DMP to rabbits for 90 days at 4 g/ kg/ day. Neither DMP nor DEP exhibited chronic toxicity or carcinogenic effects in a one-year dermal initiation-promotion study in male mice. Further, no adverse effects were reported in rats fed diets containing up to 2% DMP for two years.
**Genetic Toxicity (Salmonella*)*.** Both DMP and DEP are negative for mutagenicity in the Ames assay
**Chromosomal Aberrations**. Both DMP and DEP are negative for chromosomal damage in CHO cells in vitro. DMP was active in mouse lymphoma assay in the presence but not in the absence of S9; however, the overall weight of evidence from numerous genotoxicity assays indicates a lack of genotoxic effects.
**Reproductive toxicity:.** No effects were seen in a two-generation reproductive study in mice fed DEP at doses of 3.2 g/ kg/ day. Although adequate reproductive studies are not available for DMP, data on DEP indicate that this material will not cause reproductive effects. This is supported by data showing that neither DEP or DMP had effects on male reproductive development . Although study details are lacking, no adverse effects on reproductive organs were reported in chronic studies conducted on DMP . The lack of developmental effects observed with DMP, coupled with chronic toxicity studies showing no effects on reproductive organs, negates the need to conduct a reproductive study for DMP.
**Developmental toxicity:** No developmental effects have been observed following dietary exposure to either DMP or DEP at doses up to 5 % ( 4.2 g/ kg) in rats.

**METHYL ETHYL KETONE PEROXIDE**

Muscle weakness, ataxia, dyspnea, respiratory tract tumours, changes in structure/ function of the oesophagus, nausea, vomiting, gastrointestinal change, lymphoma recorded. Equivocal tumourigen by RTECS criteria.
The following information refers to contact allergens as a group and may not be specific to this product.
Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

**DIACETONE ALCOHOL**

Inhalation (human) TCLo: 400 ppm resp.effect No significant acute toxicological data identified in literature search.
For diacetone alcohol (DAA):
**Acute toxicity:** Oral LD50 of diacetone alcohol is more than 4,000 mg/kg. The lowest reported toxic
concentration for human is 0.475 g/m3, although the reliability is not sure because of too old study
and no detailed information. This chemical is moderately irritating to skin and irritating to eyes but there is no available data for sensitisation.
**Repeat dose toxicity:** In oral rat study by an OECD combined repeated dose and reproductive/developmental toxicity screening test [TG 422] at doses of 0, 30, 100, 300 and 1,000 mg/kg/day for at least 44 days, decreased locomotor activity and less response to stimulation by knocking sounds or palpation were observed in males and females of the 300 and 1,000 mg/kg groups. Histopathological examination revealed increases of deposition of hyaline droplets in the proximal tubular epithelium at doses of 100 mg/kg or more, basophilic tubules at doses of 300 and 1,000 mg/kg and dilatation of the distal tubules at dose of 1,000 mg/kg in male kidneys. Slight but no significant increases of dilated distal tubules and fatty degeneration of the proximal tubular epithelium were observed in female kidneys at doses of 300 and 1,000 mg/kg. Furthermore, hepatocellular hypertrophy was evident in both sexes of the 1,000 mg/kg group, and vacuolization of the cells of the zona fasciculata in the adrenals of males receiving 1,000 mg/kg. Based on renal toxicity in male, NOAEL by oral administration was considered 30 mg/kg/day.
An inhalation rat study conducted for 6 hr/day, 6 day/week, 6 weeks at doses of 0.232, 1.035 and 4.494 g/m3 demonstrated the histologic changes in the proximal tubules of the kidneys toxicity in males at the highest dose. As only liver weight was increased at mid dose, NOAEL was considered at 1.035 g/m3 for 6 hr/day, 6 day/week. The daily intake is roughly calculated as 156 mg/kg/day.
**Reproductive and developmental toxicity:** In reproductive /developmental toxicity study [OECD TG 422], there were no statistically significant adverse effects noted at any dose. However, the composite of data at the 1,000 mg/kg suggest there may be chemically related adverse effects such as decreased tendency in the fertility index, number of implantations, implantation index and birth index with two mothers ability not to normally carry the litter. Therefore, a NOAEL for
reproductive/developmental toxicity was considered to be 300 mg/kg/day.
**Genotoxicity:** Evidence of malformations was not observed at any dose. This chemical was not genotoxic in bacterial test and chromosomal aberration test ***in vitro*** [OECD TG 471 & 473].

**Continued...**

| | |
|---|---|
| | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. |

| | | | |
|---|---|---|---|
| **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***

## SECTION 12 Ecological information

### Toxicity

| | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|---|
| **RESTOFINISH POLYPRIMER HARDENER - PART B** | Not Available | Not Available | Not Available | Not Available | Not Available |
| **dimethyl phthalate** | EC50 | 72h | Algae or other aquatic plants | 28.4-71mg/L | 4 |
| | ErC50 | 72h | Algae or other aquatic plants | 54-96mg/l | 1 |
| | EC50 | 48h | Crustacea | 33mg/l | 1 |
| | NOEC(ECx) | 2448h | Fish | 11mg/l | 1 |
| | LC50 | 96h | Fish | 25-34mg/L | 4 |
| | EC50 | 96h | Algae or other aquatic plants | 20.6-45.8mg/L | 4 |
| **methyl ethyl ketone peroxide** | EC50 | 72h | Algae or other aquatic plants | 3.2mg/l | 2 |
| | EC50 | 48h | Crustacea | 39mg/l | 2 |
| | LC50 | 96h | Fish | 44.2mg/l | 2 |
| | EC10(ECx) | 72h | Algae or other aquatic plants | 1.7mg/l | 2 |
| **diacetone alcohol** | EC50 | 72h | Algae or other aquatic plants | >1000mg/l | 2 |
| | EC50 | 48h | Crustacea | >1000mg/l | 2 |
| | NOEC(ECx) | 504h | Crustacea | 100mg/l | 2 |
| | LC50 | 96h | Fish | >100mg/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*** | | | | |

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.
Toxic to aquatic organisms.
**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| dimethyl phthalate | LOW (Half-life = 14 days) | LOW (Half-life = 46.58 days) |
| methyl ethyl ketone peroxide | LOW (Half-life = 56 days) | LOW (Half-life = 0.38 days) |
| diacetone alcohol | HIGH | HIGH |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| dimethyl phthalate | LOW (BCF = 57) |
| methyl ethyl ketone peroxide | LOW (LogKOW = -0.5762) |
| diacetone alcohol | LOW (LogKOW = -0.3376) |

### Mobility in soil

| Ingredient | Mobility |
|---|---|
| dimethyl phthalate | LOW (Log KOC = 37.09) |
| methyl ethyl ketone peroxide | LOW (Log KOC = 10.58) |

**Continued...**

| **Ingredient** | **Mobility** |
|---|---|
| diacetone alcohol | HIGH (Log KOC = 1) |

## SECTION 13 Disposal considerations

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ‣ Containers may still present a chemical hazard/ danger when empty.<br>‣ Return to supplier for reuse/ recycling if possible.<br>Otherwise:<br>‣ 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.<br>‣ Where possible retain label warnings and SDS and observe all notices pertaining to the product.<br>‣ **DO NOT** allow wash water from cleaning or process equipment to enter drains.<br>‣ It may be necessary to collect all wash water for treatment before disposal.<br>‣ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.<br>‣ Where in doubt contact the responsible authority.<br>For small quantities of oxidising agent:<br>‣ Cautiously acidify a 3% solution to pH 2 with sulfuric acid.<br>‣ Gradually add a 50% excess of sodium bisulfite solution with stirring.<br>‣ Add a further 10% sodium bisulfite.<br>‣ If no further reaction occurs (as indicated by a rise in temperature) cautiously add more acid.<br>‣ Recycle wherever possible.<br>‣ 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.<br>‣ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus.<br>‣ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed. |

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.
DO NOT deposit the hazardous substance into or onto a landfill or a sewage facility.
"Detonation, deflagration or controlled combustion of the hazardous substance must happen under controlled conditions with no person or place exposed to
1. a blast overpressure of more than 9 kPa; or
2. an unsafe level of heat radiation."
The disposed hazardous substance must not come into contact with class 1, 2, 3 or 4 substances.
Remove any ignition source from the disposal site.

## SECTION 14 Transport information

### Labels Required

| | |
|---|---|
| |  |
| **Marine Pollutant** | NO |
| **HAZCHEM** | 2WE |

### Land transport (UN)

| | |
|---|---|
| 14.1. **UN number or ID number** | 3105 |
| 14.2. **UN proper shipping name** | ORGANIC PEROXIDE TYPE D, LIQUID |
| 14.3. **Transport hazard class(es)** | Class: 5.2<br>Subsidiary Hazard: Not Applicable |
| 14.4. **Packing group** | Not Applicable |
| 14.5. **Environmental hazard** | Not Applicable |
| 14.6. **Special precautions for user** | Special provisions: 122; 274<br>Limited quantity: 125 ml |

### Air transport (ICAO-IATA / DGR)

| | |
|---|---|
| 14.1. **UN number** | 3105 |
| 14.2. **UN proper shipping name** | Organic peroxide type D, liquid * |
| 14.3. **Transport hazard class(es)** | ICAO/IATA Class: 5.2<br>ICAO / IATA Subsidiary Hazard: Not Applicable<br>ERG Code: 5L |

**Continued...**

| | |
|---|---|
| 14.4. **Packing group** | Not Applicable |
| 14.5. **Environmental hazard** | Not Applicable |
| 14.6. **Special precautions for user** | Special provisions: A20 A150 A802<br>Cargo Only Packing Instructions: 570<br>Cargo Only Maximum Qty / Pack: 10 L<br>Passenger and Cargo Packing Instructions: 570<br>Passenger and Cargo Maximum Qty / Pack: 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions: Forbidden<br>Passenger and Cargo Limited Maximum Qty / Pack: Forbidden |

### Sea transport (IMDG-Code / GGVSee)

| | |
|---|---|
| 14.1. **UN number** | 3105 |
| 14.2. **UN proper shipping name** | ORGANIC PEROXIDE TYPE D, LIQUID |
| 14.3. **Transport hazard class(es)** | IMDG Class: 5.2<br>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: F-J , S-R<br>Special provisions: 122 274<br>Limited Quantities: 125 mL |

### 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 |
|---|---|
| dimethyl phthalate | Not Available |
| methyl ethyl ketone peroxide | Not Available |
| diacetone alcohol | Not Available |

### 14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|---|
| dimethyl phthalate | Not Available |
| methyl ethyl ketone peroxide | Not Available |
| diacetone alcohol | Not Available |

## 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 |
|---|---|
| HSR002630 | Organic Peroxides Corrosive Group Standard 2020 |

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

**dimethyl phthalate is found on the following regulatory lists**

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

**methyl ethyl ketone peroxide is found on the following regulatory lists**

New Zealand Approved Hazardous Substances with controls
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

**diacetone alcohol is found on the following regulatory lists**

New Zealand Approved Hazardous Substances with controls
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

### Additional Regulatory Information

Continued...

Not Applicable

### Hazardous Substance Location

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

| Hazard Class | Quantities | Quantity (Compliance Certificate) | Quantity (Compliance Certificate - Farms >4 ha) |
|---|---|---|---|
| 5.2C or 5.2D | > 10 kg | | |
| 6.1C | | 1000 kg or 1000 L | 3500 kg or 3500 L |
| 8.2B | | 250 kg or 250 L | 3500 kg or 3500 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

### Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Gas (aggregate water capacity in mL) | Liquid (L) | Solid (kg) | Maximum quantity per package for each classification |
|---|---|---|---|---|
| 6.1C | 120 | 1 | 3 | |
| 6.5A or 6.5B | 120 | 1 | 3 | |
| 8.2B | 120 | 1 | 3 | |
| 5.2C or 5.2D or 5.2E or 5.2F | | | | 125 ml or 0.5 kg |

### Tracking Requirements

Not Applicable

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (dimethyl phthalate; methyl ethyl ketone peroxide; diacetone alcohol) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| ***Legend:*** | ***Yes = All CAS declared ingredients are on the inventory***<br>***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** | 14/08/2024 |
| **Initial Date** | 14/08/2024 |

### SDS Version Summary

| Version | Date of Update | Sections Updated |
|---|---|---|
| 2.1 | 14/08/2024 | Transport Information |

### 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

**Continued...**

- TEEL: Temporary Emergency Exposure Limitｏ
- 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
- 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