# Ardex RA 040
## Ardex (Ardex NZ)

Chemwatch Hazard Alert Code: **2**

Chemwatch: **5400-30**
Version No: **3.1.2.1**
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: **20/05/2021**
Print Date: **20/05/2021**
S.GHS.NZL.EN

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

### Product Identifier

| | |
|---|---|
| **Product name** | Ardex RA 040 |
| **Chemical Name** | Not Applicable |
| **Synonyms** | Not Available |
| **Proper shipping name** | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) |
| **Chemical formula** | Not Applicable |
| **Other means of identification** | Not Available |

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

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|---|---|
| **Relevant identified uses** | One component, ready to use, which is administered cake consistency, quality upgraded, save its elastic structure, reacts with atmospheric moisture curing, polyurethane based sealant. |

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

| | |
|---|---|
| **Registered company name** | **Ardex (Ardex NZ)** |
| **Address** | 32 Lane Street Woolston Christchurch New Zealand |
| **Telephone** | +64 3384 3029 |
| **Fax** | +64 3384 9779 |
| **Website** | www.ardex.co.nz |
| **Email** | info@ardexnz.com |

### Emergency telephone number

| | |
|---|---|
| **Association / Organisation** | **Ardex (Ardex NZ)** |
| **Emergency telephone numbers** | +64 3 373 6900 |
| **Other emergency telephone numbers** | 0800 764 766 (NZ NPC) |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

**Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.**
**Classified as Dangerous Goods for transport purposes.**

**ChemWatch Hazard Ratings**

| | | Min | Max |
|---|---|---|---|
| Flammability | 2 | | |
| Toxicity | 1 | | |
| Body Contact | 2 | | |
| Reactivity | 1 | | |
| Chronic | 2 | | |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|---|---|
| **Classification [1]** | Flammable Liquid Category 3, Acute Toxicity (Oral) Category 5, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Serious Eye Damage/Eye Irritation Category 1, Respiratory Sensitizer Category 1, Reproductive Toxicity Category 2, Specific target organ toxicity - single exposure Category 2, Acute Aquatic Hazard 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* |

**Page 1 continued...**

| | |
|---|---|
| **Determined by Chemwatch using GHS/HSNO criteria** | 3.1C, 6.1E (oral), 6.3A, 8.3A, 6.5A (respiratory), 6.5B (contact), 6.8B, 6.9B, 9.1D |

### Label elements

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

### Hazard statement(s)

| | |
|---|---|
| **H226** | Flammable liquid and vapour. |
| **H303** | May be harmful if swallowed. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H318** | Causes serious eye damage. |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **H361** | Suspected of damaging fertility or the unborn child. |
| **H371** | May cause damage to organs. |
| **H402** | Harmful to aquatic life. |

### 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 mist/vapours/spray. |

### Precautionary statement(s) Response

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|---|---|
| **P304+P340** | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| **P305+P351+P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| **P310** | Immediately call a POISON CENTER/doctor/physician/first aider. |
| **P342+P311** | If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider. |

### 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 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 |
|---|---|---|
| 68515-48-0 | 10-20 | diisononyl phthalate |
| 1330-20-7 | <10 | xylene |
| 1305-78-8 | <5 | calcium oxide |
| 101-68-8 | 0.1-0.3 | 4,4'-diphenylmethane diisocyanate (MDI) |
| ***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

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|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Immediately hold eyelids apart and flush the eye continuously with 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>▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.<br>▸ Transport to hospital or doctor without delay. |

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| | |
|---|---|
| | ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin contact occurs:<br>▸ Immediately remove all contaminated clothing, including footwear.<br>▸ Flush skin and hair with running water (and soap if available).<br>▸ Seek medical attention in event of irritation. |
| **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.<br>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted. |
| **Ingestion** | ▸ 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>▸ Seek medical advice.<br>▸ Avoid giving milk or oils.<br>▸ Avoid giving alcohol. |

### 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

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### Special hazards arising from the substrate or mixture

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

### Advice for firefighters

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|---|---|
| **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.<br>▸ Prevent, by any means available, spillage from entering drains or water course. |
| **Fire/Explosion Hazard** | ▸ Liquid and vapour are flammable.<br>▸ Moderate fire hazard when exposed to heat or flame.<br>▸ Vapour forms an explosive mixture with air.<br>▸ Moderate explosion hazard when exposed to heat or flame.<br>Combustion products include:<br>carbon dioxide ($CO_2$)<br>isocyanates<br>and minor amounts of<br>hydrogen cyanide<br>nitrogen oxides (NOx)<br>other pyrolysis products typical of burning organic material.<br>carbon monoxide (CO) |

## 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

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|---|---|
| **Minor Spills** | ▸ Remove all ignition sources.<br>▸ Clean up all spills immediately.<br>▸ Avoid breathing vapours and contact with skin and eyes.<br>▸ Control personal contact with the substance, by using protective equipment. |
| **Major Spills** | ▸ Clear area of personnel and move upwind.<br>▸ 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. |

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

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## SECTION 7 Handling and storage

### Precautions for safe handling

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|---|---|
| **Safe handling** | ▸ Containers, even those that have been emptied, may contain explosive vapours.<br>▸ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.<br>▸ **DO NOT** allow clothing wet with material to stay in contact with skin<br>▸ Electrostatic discharge may be generated during pumping - this may result in fire.<br>▸ Ensure electrical continuity by bonding and grounding (earthing) all equipment.<br>▸ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec).<br>▸ Avoid splash filling.<br>▸ Avoid all personal contact, including inhalation.<br>▸ Wear protective clothing when risk of overexposure occurs.<br>▸ Use in a well-ventilated area.<br>▸ Prevent concentration in hollows and sumps. |
| **Other information** | ▸ Store in original containers in approved flammable liquid storage area.<br>▸ Store away from incompatible materials in a cool, dry, well-ventilated area.<br>▸ **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped.<br>▸ No smoking, naked lights, heat or ignition sources. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | ▸ Packing as supplied by manufacturer.<br>▸ Plastic containers may only be used if approved for flammable liquid.<br>▸ Check that containers are clearly labelled and free from leaks.<br>▸ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.<br>▸ For materials with a viscosity of at least 2680 cSt. (23 deg. C)<br>▸ For manufactured product having a viscosity of at least 250 cSt. |
| **Storage incompatibility** | ▸ Avoid reaction with oxidising 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) | diisononyl phthalate | Diisononyl phthalate | 5 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | xylene | Dimethylbenzene | 50 ppm / 217 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | calcium oxide | Calcium oxide | 2 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | 4,4'-diphenylmethane diisocyanate (MDI) | Diphenylmethane diisocyanate | 0.02 mg/m3 | 0.07 mg/m3 | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | 4,4'-diphenylmethane diisocyanate (MDI) | Methylene bisphenyl isocyanate | 0.02 mg/m3 | 0.07 mg/m3 | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | 4,4'-diphenylmethane diisocyanate (MDI) | MDI | 0.02 mg/m3 | 0.07 mg/m3 | Not Available | Not Available |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| xylene | Not Available | Not Available | Not Available |
| calcium oxide | 6 mg/m3 | 110 mg/m3 | 660 mg/m3 |
| 4,4'-diphenylmethane diisocyanate (MDI) | 0.45 mg/m3 | Not Available | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI) | 29 mg/m3 | 40 mg/m3 | 240 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| diisononyl phthalate | Not Available | Not Available |
| xylene | 900 ppm | Not Available |
| calcium oxide | 25 mg/m3 | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI) | 75 mg/m3 | Not Available |

### Exposure controls

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

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| | |
|---|---|
| **Personal protection** |  |
| **Eye and face protection** | ‣ Safety glasses with side shields.<br>‣ Chemical goggles.<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. |
| **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>**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. |
| **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>‣ 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. |

### 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:
Ardex RA 040

| Material | CPI |
|---|---|
| PE/EVAL/PE | A |
| BUTYL | C |
| BUTYL/NEOPRENE | C |
| HYPALON | C |
| NAT+NEOPR+NITRILE | C |
| NATURAL+NEOPRENE | C |
| NEOPRENE | C |
| NEOPRENE/NATURAL | C |
| NITRILE | C |
| NITRILE+PVC | C |
| PVA | C |
| PVC | C |
| PVDC/PE/PVDC | C |
| TEFLON | 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.

### 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 | - |
| 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

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|---|---|
| **Appearance** | White to grey coloured flammable liquid. |

**Continued...**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 1.20-1.30 @23C |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Available |
| **pH (as supplied)** | Not Available | **Decomposition temperature** | Not Available |
| **Melting point / freezing point (°C)** | Not Applicable | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | Not Available | **Molecular weight (g/mol)** | Not Applicable |
| **Flash point (°C)** | >*60 (OC) | **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** | Not Available | **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** | ▸ Unstable in the presence of incompatible materials.<br>▸ Product is considered stable.<br>▸ 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** | Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.<br>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.<br>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. |
| **Ingestion** | Accidental ingestion of the material may be damaging to the health of the individual.<br>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) |
| **Skin Contact** | This material can cause inflammation of the skin on contact in some persons.<br>The material may accentuate any pre-existing dermatitis condition<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions 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. |
| **Eye** | If applied to the eyes, this material causes severe eye damage. |
| **Chronic** | Exposure to phthalates over years leads to pain, numbness and spasms in the hands and feet. Many people have developed multiple disorders in the nervous system and the balancing system.<br>Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects. Evaluation of workers chronically exposed to xylene has demonstrated lack of genetic toxicity.<br>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.<br>There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.<br>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. |

| | | |
|---|---|---|
| **Ardex RA 040** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **diisononyl phthalate** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >3160 mg/kg[2] | Not Available |
| | Inhalation(Rat) LC50; >4.4 mg/l4h[1] | |
| | Oral(Rat) LD50; 2550 mg/kg[2] | |

**Continued...**

| | | |
|---|---|---|
| **xylene** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >1700 mg/kg[2] | Eye (human): 200 ppm irritant |
| | Inhalation(Rat) LC50; 5922 ppm4h[1] | Eye (rabbit): 5 mg/24h SEVERE |
| | Oral(Mouse) LD50; 1548 mg/kg[2] | Eye (rabbit): 87 mg mild |
| | | Eye: adverse effect observed (irritating)[1] |
| | | Skin (rabbit):500 mg/24h moderate |
| | | Skin: adverse effect observed (irritating)[1] |
| **calcium oxide** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[1] | Eye: adverse effect observed (irreversible damage)[1] |
| | Inhalation(Rat) LC50; >3 mg/l4h[1] | Skin: adverse effect observed (irritating)[1] |
| | Oral(Rat) LD50; >2000 mg/kg[1] | |
| **4,4'-diphenylmethane diisocyanate (MDI)** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >6200 mg/kg[2] | Dermal Sensitiser * |
| | Inhalation(Rat) LC50; 0.368 mg/L4h[1] | Eye: no adverse effect observed (not irritating)[1] |
| | Oral(Rat) LD50; >2000 mg/kg[1] | Skin (rabbit): 500 mg /24 hours |
| | | Skin: adverse effect observed (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* | |

| | |
|---|---|
| **DIISONONYL PHTHALATE** | [Huls] The effects of DINP on fertility-related parameters such as reduced testosterone content and production and altered reproductive organ weights (with or without histopathologies) have been demonstrated in rats. Although quantitatively being less potent, DINP has exhibited adverse effects on the male reproductive system and sexual differentiation during development in a number of rodent studies (e.g. increased nipple retention, testicular pathology and decreased AGD/AGI in male offspring), which are components of the antiandrogenic pattern observed with diethylhexyl phthalate (DEHP) (a known reproductive toxicant). Foetal expression of genes involved in androgen synthesis such as StAR and Cyp11a were also reduced. There was also a report of increased gene expression levels of Insl3 (a foetal Leydig cell product critical for testis descent) that may infer the impaired testicular steroidogenesis following exposure to DINP at high doses (e.g. = 750 mg/kg bw/d). Considering the chemical composition of DINP, which is represented as mixed phthalates with side-chains made up of 5?10% methylethylhexyl, limited evidence of the toxicological properties of transitional phthalates may be expected at high doses of DINP tested The reduced pup weight was observed at approximately 100 mg/kg bw/d in both sexes, both in one- and two-generation reproductive studies in rats, in the absence of overt maternal toxicity. The pup weight reduction was also sustained and not considered solely related to low birth weight. In a post-natal toxicity study, reduced pup weight was also reduced at = 250 mg/kg bw/d. Therefore, this adverse effect of DINP is assessed as the most sensitive endpoint on offspring development. Overall, the available human data do not provide sufficient evidence for a causal relationship between exposure to DINP and adverse health effects in humans. There is also insufficient information to examine the mode of action of DINP on male reproductive tract development and sexual function in comparison with transitional phthalates. However, elements of the plausible mode of action for DINP effects on the male reproductive system, offspring growth and sexual differentiation are considered likely to be parallel in rats and humans if the exposure to DINP is high and within a critical window of development. Therefore, the effects observed in animal studies are regarded as relevant to a human risk assessment.<br>High Molecular Weight Phthalate Esters (HMWPEs) Category<br>The HMWPE group includes chemically similar substances produced from alcohols. These substances have been demonstrated to have few biological effects. They demonstrate minimal acute toxicity, with effect on the liver and kidney at high doses. They also cause reproductive and developmental toxicity, also, liver cancer.<br>The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited organelles in the cytoplasm that are found in the cells of animals, plants, fungi, and protozoa. |
| **XYLENE** | Reproductive effector in rats<br>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 on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| **4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)** | Inhalation (human) TCLo: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate<br>The following information refers to contact allergens as a group and may not be specific to this product.<br>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.<br>Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.<br>Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.<br>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.<br>Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.<br>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. This group of compounds has therefore been classified as cancer-causing. |
| **XYLENE & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)** | The substance is classified by IARC as Group 3:<br>**NOT** classifiable as to its carcinogenicity to humans.<br>Evidence of carcinogenicity may be inadequate or limited in animal testing. |

**Continued...**

| | |
|---|---|
| **CALCIUM OXIDE & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)** | 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. |

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

**Ardex RA 040**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**diisononyl phthalate**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50 | 96h | Algae or other aquatic plants | >2.8mg/l | 1 |
| EC50 | 72h | Algae or other aquatic plants | >88mg/l | 2 |
| LC50 | 96h | Fish | >0.1mg/l | 2 |
| EC50 | 48h | Crustacea | >0.086mg/l | 1 |
| NOEC(ECx) | 504h | Crustacea | >0.034mg/l | 1 |

**xylene**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50(ECx) | Not Reportedh | Fish | 0.017mg/L | 4 |
| EC50 | 72h | Algae or other aquatic plants | 4.6mg/l | 2 |
| EC50 | 48h | Crustacea | 1.8mg/l | 2 |
| LC50 | 96h | Fish | 2.6mg/l | 2 |

**calcium oxide**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC10(ECx) | 72h | Algae or other aquatic plants | >14mg/l | 2 |
| EC50 | 72h | Algae or other aquatic plants | >14mg/l | 2 |
| LC50 | 96h | Fish | 50.6mg/l | 2 |
| EC50 | 48h | Crustacea | 49.1mg/l | 2 |

**4,4'-diphenylmethane diisocyanate (MDI)**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 504h | Crustacea | >=10mg/l | 2 |
| BCF | 672h | Fish | 61-150 | 7 |
| EC50 | 72h | Algae or other aquatic plants | >1640mg/l | 2 |
| LC50 | 96h | Fish | >1000mg/l | 2 |

***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*

Toxic to aquatic organisms.
**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| diisononyl phthalate | HIGH | HIGH |
| xylene | HIGH (Half-life = 360 days) | LOW (Half-life = 1.83 days) |
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (Half-life = 1 days) | LOW (Half-life = 0.24 days) |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| diisononyl phthalate | LOW (BCF = 183.8) |
| xylene | MEDIUM (BCF = 740) |

**Continued...**

| Ingredient | Bioaccumulation |
|---|---|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (BCF = 15) |

**Mobility in soil**

| Ingredient | Mobility |
|---|---|
| diisononyl phthalate | LOW (KOC = 467200) |
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (KOC = 376200) |

## SECTION 13 Disposal considerations

**Waste treatment methods**

| | |
|---|---|
| **Product / Packaging disposal** | ▸ **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>▸ 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>▸ 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).<br>▸ 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** | •3Y |

**Land transport (UN)**

| | |
|---|---|
| **UN number** | 1139 |
| **UN proper shipping name** | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) |
| **Transport hazard class(es)** | Class: 3<br>Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: 223<br>Limited quantity: 5 L |

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

| | |
|---|---|
| **UN number** | 1139 |
| **UN proper shipping name** | Coating solution (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) |
| **Transport hazard class(es)** | ICAO/IATA Class: 3<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: 3L |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |

**Continued...**

| | | |
|---|---|---|
| **Special precautions for user** | Special provisions | A3 |
| | Cargo Only Packing Instructions | 366 |
| | Cargo Only Maximum Qty / Pack | 220 L |
| | Passenger and Cargo Packing Instructions | 355 |
| | Passenger and Cargo Maximum Qty / Pack | 60 L |
| | Passenger and Cargo Limited Quantity Packing Instructions | Y344 |
| | Passenger and Cargo Limited Maximum Qty / Pack | 10 L |

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

| | |
|---|---|
| **UN number** | 1139 |
| **UN proper shipping name** | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under-coating, drum or barrel lining) |
| **Transport hazard class(es)** | IMDG Class: 3<br>IMDG Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | EMS Number: F-E , S-E<br>Special provisions: 955<br>Limited Quantities: 5 L |

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

Not Applicable

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

| Product name | Group |
|---|---|
| diisononyl phthalate | Not Available |
| xylene | Not Available |
| calcium oxide | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI) | Not Available |

### Transport in bulk in accordance with the ICG Code

| Product name | Ship Type |
|---|---|
| diisononyl phthalate | Not Available |
| xylene | Not Available |
| calcium oxide | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI) | 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 |
|---|---|
| HSR002662 | Surface Coatings and Colourants (Flammable) Group Standard 2017 |
| HSR002621 | N.O.S. (Flammable) Group Standard 2017 |

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

Chemical Footprint Project - Chemicals of High Concern List
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)

**xylene is found on the following regulatory lists**

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

**calcium oxide is found on the following regulatory lists**

**Continued...**

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

**4,4'-diphenylmethane diisocyanate (MDI) is found on the following regulatory lists**

| | |
|---|---|
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| New Zealand Approved Hazardous Substances with controls | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals | New Zealand Workplace Exposure Standards (WES) |

### Hazardous Substance Location

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

| Hazard Class | Quantity (Closed Containers) | Quantity (Open Containers) |
|---|---|---|
| 3.1C | 500 L in containers more than 5 L | 250 L |
| 3.1C | 1 500 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

### 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 |
|---|---|---|---|---|
| 6.5A or 6.5B | 120 | 1 | 3 | |
| 3.1C or 3.1D | | | | 10 L |

### Tracking Requirements

Not Applicable

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (diisononyl phthalate; xylene; calcium oxide; 4,4'-diphenylmethane diisocyanate (MDI)) |
| 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 and are not exempt from listing(see specific ingredients in brackets)* |

## SECTION 16 Other information

| | |
|---|---|
| **Revision Date** | 20/05/2021 |
| **Initial Date** | 26/03/2020 |

### SDS Version Summary

| Version | Date of Update | Sections Updated |
|---|---|---|
| 3.1.2.1 | 29/04/2021 | Regulation Change |
| 3.1.2.1 | 20/05/2021 | Classification, Physical Properties |

### Other information

**Continued...**

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
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
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