



Ardex RA 54 Part B

Ardex (Ardex Australia)

Chemwatch Hazard Alert Code: 2

Chemwatch: 5156-37
Version No: 6.1.17.10

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 01/11/2019
Print Date: 16/09/2021
S.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|--------------------|
| Product name | Ardex RA 54 Part B |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| 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 | Joint treatment. |
|--------------------------|------------------|

Details of the supplier of the safety data sheet

| | |
|-------------------------|--|
| Registered company name | Ardex (Ardex Australia) |
| Address | 20 Powers Road Seven Hills NSW 2147 Australia |
| Telephone | 1800 224 070 |
| Fax | 1300 780 102 |
| Website | www.ardexaustralia.com |
| Email | technicalservices@ardexaustralia.com |

Emergency telephone number

| | |
|-----------------------------------|---------------------------------|
| Association / Organisation | Ardex (Ardex Australia) |
| Emergency telephone numbers | 1800 224 070 (Mon-Fri, 9am-5pm) |
| Other emergency telephone numbers | Not Available |

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

ChemWatch Hazard Ratings


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

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

| | |
|--------------------|---|
| Poisons Schedule | S5 |
| Classification [1] | Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Skin) Category 1, Germ Cell Mutagenicity Category 2, Carcinogenicity Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3, Skin Corrosion/Irritation Category 2 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

Label elements

Ardex RA 54 Part B

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

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

Hazard statement(s)

| | |
|-------------|--|
| H319 | Causes serious eye irritation. |
| H317 | May cause an allergic skin reaction. |
| H341 | Suspected of causing genetic defects. |
| H351 | Suspected of causing cancer. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H315 | Causes skin irritation. |

Precautionary statement(s) Prevention

| | |
|-------------|--|
| P201 | Obtain special instructions before use. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P261 | Avoid breathing mist/vapours/spray. |

Precautionary statement(s) Response

| | |
|-----------------------|--|
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |

Precautionary statement(s) Storage

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

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 |
|-------------|-----------|---|
| 8001-79-4 | 50-75 | castor oil |
| 102093-68-5 | 5-10 | 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine |
| 13463-67-7 | 3-5 | titanium dioxide |
| 104983-85-9 | 1-3 | 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine |
| 1333-86-4 | 0.3-1 | carbon black |

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 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 | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. |

Ardex RA 54 Part B

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

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

The material may induce methaemoglobinaemia following exposure.

- ▶ Initial attention should be directed at oxygen delivery and assisted ventilation if necessary. Hyperbaric oxygen has not demonstrated substantial benefits.
- ▶ Hypotension should respond to Trendelenburg's position and intravenous fluids; otherwise dopamine may be needed.
- ▶ Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue. (Cyanosis, alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 50 minutes; repeat, using the same dose, if symptoms of hypoxia fail to subside within 1 hour.
- ▶ Thorough cleansing of the entire contaminated area of the body, including the scalp and nails, is of utmost importance.

BIOLOGICAL EXPOSURE INDEX - BEI

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

| Determinant | Index | Sampling Time | Comment |
|----------------------------|---------------------|------------------------|-----------|
| 1. Methaemoglobin in blood | 1.5% of haemoglobin | During or end of shift | B, NS, SQ |

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

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

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

SECTION 5 Firefighting measures

Extinguishing media

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

Special hazards arising from the substrate or mixture

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

Advice for firefighters

| | |
|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Use water delivered as a fine spray to control fire and cool adjacent area. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ On combustion, may emit toxic fumes of carbon monoxide (CO). <p>Combustion products include: carbon dioxide (CO₂) acrolein nitrogen oxides (NO_x) sulfur oxides (SO_x) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p> <p>CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p> |
| HAZCHEM | Not Applicable |

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

Ardex RA 54 Part B

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

SECTION 7 Handling and storage

Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <p>Rags wet / soaked with unsaturated hydrocarbons / drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed, or piled together - this allows the heat to accumulate or even accelerate the reaction</p> <p>Oily cleaning rags should be collected regularly and immersed in water, or spread to dry in safe-place away from direct sunlight or stored, immersed, in solvents in suitably closed containers.</p> <ul style="list-style-type: none"> ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps. |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ No smoking, naked lights or ignition sources. ▶ Store in a cool, dry, well-ventilated area. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▶ Glass container is suitable for laboratory quantities ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <ul style="list-style-type: none"> ▶ Avoid cross contamination between the two liquid parts of product (kit). ▶ If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur. ▶ This excess heat may generate toxic vapour ▶ Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates. |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|------------------|------------------|----------|---------------|---------------|--|
| Australia Exposure Standards | titanium dioxide | Titanium dioxide | 10 mg/m3 | Not Available | Not Available | (a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica. |
| Australia Exposure Standards | carbon black | Carbon black | 3 mg/m3 | Not Available | Not Available | Not Available |

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|------------------|----------|-----------|-------------|
| titanium dioxide | 30 mg/m3 | 330 mg/m3 | 2,000 mg/m3 |
| carbon black | 9 mg/m3 | 99 mg/m3 | 590 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---------------|---------------|
| castor oil | Not Available | Not Available |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | Not Available | Not Available |
| titanium dioxide | 5,000 mg/m3 | Not Available |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | Not Available | Not Available |
| carbon black | 1,750 mg/m3 | Not Available |

Occupational Exposure Banding

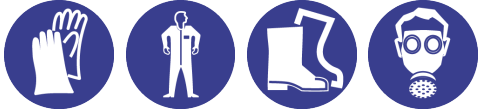
| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|-----------------------------------|----------------------------------|
| castor oil | E | ≤ 0.1 ppm |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | D | > 0.1 to ≤ 1 ppm |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | E | ≤ 0.1 ppm |

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

Exposure controls

| | |
|---|--|
| Appropriate engineering controls | Care: Atmospheres in bulk storages and even apparently empty tanks may be hazardous by oxygen depletion. Atmosphere must be checked before entry. |
|---|--|

Ardex RA 54 Part B

| | |
|--------------------------------|---|
| | <p>Requirements of State Authorities concerning conditions for tank entry must be met. Particularly with regard to training of crews for tank entry; work permits; sampling of atmosphere; provision of rescue harness and protective gear as needed</p> <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are: 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.</p> |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>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.</p> <p>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.</p> <p>Personal hygiene is a key element of effective hand care.</p> <ul style="list-style-type: none"> ▶ Neoprene gloves |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream. |

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 54 Part B

| Material | CPI |
|----------|-----|
| NEOPRENE | A |

* 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 AK-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 | AK-AUS P2 | - | AK-PAPR-AUS / Class 1 P2 |
| up to 50 x ES | - | AK-AUS / Class 1 P2 | - |
| up to 100 x ES | - | AK-2 P2 | AK-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 | Coloured opaque viscous liquid with vegetable oil or slight aminic odour; does not mix with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.08 |

Ardex RA 54 Part B

| | | | |
|---|----------------|--|----------------|
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Applicable | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | 3000-7000 |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | >93.3 (CC) | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Immiscible | pH as a solution (%) | Not Applicable |
| Vapour density (Air = 1) | Not Available | VOC g/L | <10 |

SECTION 10 Stability and reactivity

| | |
|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 Toxicological information

Information on toxicological effects

| | |
|---------------------|---|
| Inhaled | The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. 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. Inhalation hazard is increased at higher temperatures. |
| Ingestion | Accidental ingestion of the material may be damaging to the health of the individual. |
| Skin Contact | The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Open cuts, abraded or irritated skin should not be exposed to this material. 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 | Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn). |
| Chronic | There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. |

| | | |
|--|---|--|
| Ardex RA 54 Part B | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| castor oil | TOXICITY | IRRITATION |
| | Oral(Rat) LD50; >4800 mg/kg ^[1] | Eye (rabbit): 500 mg mild |
| | | Skin (human): 50 mg/48h mild Skin (rabbit): 100 mg/24h SEVERE |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[2] Oral(Rat) LD50; 1515 mg/kg ^[2] | Not Available |
| titanium dioxide | TOXICITY | IRRITATION |
| | dermal (hamster) LD50: >=10000 mg/kg ^[2] Inhalation(Rat) LC50; >2.28 mg/4h ^[1] | Eye: no adverse effect observed (not irritating) ^[1] Skin (human): 0.3 mg /3D (int)-mild * |

| | | |
|--|---|--|
| | Oral(Rat) LD50; >=2000 mg/kg ^[1] | Skin: no adverse effect observed (not irritating) ^[1] |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[2] | Not Available |
| | Oral(Rat) LD50; 1515 mg/kg ^[2] | |
| carbon black | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Oral(Rat) LD50; >8000 mg/kg ^[1] | Skin: no adverse effect observed (not irritating) ^[1] |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of Chemical Substances | |

| | |
|---|--|
| CASTOR OIL | <p>For aliphatic fatty acids (and salts)</p> <p>Acute oral (gavage) toxicity:</p> <p>The acute oral LD50 values in rats for both were greater than >2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study. In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy.</p> <p>Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length. According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating.</p> <p>Human skin irritation studies using more realistic exposures (30-minute, 1-hour or 24-hours) indicate that the aliphatic acids have sufficient, good or very good skin compatibility.</p> <p>Animal eye irritation studies indicate that among the aliphatic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic acids are not irritating.</p> <p>Eye irritation potential of the ammonium salts does not follow chain length dependence; the C18 ammonium salts are corrosive to the eyes.</p> <p>Dermal absorption:</p> <p>The in vitro penetration of C10, C12, C14, C16 and C18 fatty acids (as sodium salt solutions) through rat skin decreases with increasing chain length. At 86.73 ug C16/cm² and 91.84 ug C18/cm², about 0.23% and less than 0.1% of the C16 and C18 soap solutions is absorbed after 24 h exposure, respectively.</p> <p>Sensitisation:</p> <p>No sensitisation data were located.</p> <p>Repeat dose toxicity:</p> <p>Repeated dose oral (gavage or diet) exposure to aliphatic acids did not result in systemic toxicity with NOAELs greater than the limit dose of 1000 mg/kg bw.</p> <p>For group E aliphatic esters (polyol esters):</p> <p>The polyol esters, including trimethylolpropane (TMP), pentaerythritol (PE) and dipentaerythritol (diPE) are unique in their chemical characteristics since they lack beta-tertiary hydrogen atoms, thus leading to stability against oxidation and elimination. Therefore their esters with C5-C10 fatty acids have applications as artificial lubricants. Because of their stability at high temperatures, they are also used in high temperature applications such as industrial oven chain oils, high temperature greases, fire resistant transformer coolants and turbine engines.</p> <p>Polyol esters that are extensively esterified also have greater polarity, less volatility and enhanced lubricating properties.</p> <p>Acute toxicity: Animal studies show relatively low toxicity by swallowing.</p> <p>For triglycerides:</p> <p>Carboxylic acid esters will undergo enzymatic hydrolysis by ubiquitously expressed GI esterases. The rate of hydrolysis is dependant on the structure of the ester, and may therefore be rapid or rather slow. Thus, due to hydrolysis, predictions on oral absorption based on the physico-chemical characteristics of the intact parent substance alone may no longer apply.</p> <p>When considering the hydrolysis product glycerol, absorption is favoured based on passive and active absorption of glycerol.</p> <p>The Cosmetic Ingredient Review (CIR) Expert Panel has issued three final reports on the safety of 25 triglycerides, i.e., fatty acid triesters of glycerin</p> <p>High purity is needed for the triglycerides. Previously the Panel published a final report on a diglycerides, and concluded that the ingredients in the diglyceride family are safe in the present practices of use and concentration provided the content of 1,2-diesters is not high enough to induce epidermal hyperplasia. The Panel discussed that there was an increased level of concern because of data regarding the induction of protein kinase C (PKC) and the tumor promotion potential of 1,2-diaclyglycerols. The Panel noted that, nominally, glyceryl-1,3-diesters contain 1,2-diesters, raising the concern that 1,2-diesters could potentially induce hyperplasia.</p> <p>Some tumorigenic effects have been reported in animal studies using castor oil</p> <p>The castor seed contains ricin, a toxic protein. Heating during the oil extraction process denatures and inactivates the protein. However, harvesting castor beans may not be without risk. Allergenic compounds found on the plant surface can cause permanent nerve damage, making the harvest of castor beans a human health risk.</p> <p>The United States Food and Drug Administration (FDA) has categorized castor oil as "generally recognized as safe and effective" (GRASE) for over-the-counter use as a laxative with its major site of action the small intestine where it is digested into ricinoleic acid.</p> |
| TITANIUM DIOXIDE | <p>* IUCLID</p> <p>Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.</p> <p>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.</p> <p>Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle. It penetrated only the outermost layer of the skin, suggesting that healthy skin may be an effective barrier. There is no substantive data on genetic damage, though cases have been reported in experimental animals.</p> <p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> |
| CARBON BLACK | Inhalation (rat) TCLo: 50 mg/m ³ /6h/90D-I Nil reported |
| CASTOR OIL & TITANIUM DIOXIDE & CARBON BLACK | No significant acute toxicological data identified in literature search. |

Ardex RA 54 Part B

| | |
|---|---|
| <p>2,6-BIS(METHYLTHIO)-4-METHYL-1,3-BENZENEDIAMINE & 4,6-BIS(METHYLTHIO)-2-METHYL-1,3-BENZENEDIAMINE</p> | <p>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.</p> <p>p-Phenylenediamine is oxidised by the liver microsomal enzymes (S9). Pure p-phenylenediamine does not cause mutations, but after it is oxidized, it does.</p> <p>Rats given di(methylthio)toluenediamines in the diet for up to 90 days showed increased liver metabolic activity. There were kidney effects observed that were unique to male rats. These effects were similar to changes that have been observed in male rats given hydrocarbons. These effects resolved in animals allowed 30 days recovery.</p> <p>NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.</p> |
|---|---|

| | |
|---|---|
| <p>TITANIUM DIOXIDE & CARBON BLACK</p> | <p>WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p> |
|---|---|

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

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

SECTION 12 Ecological information

Toxicity

| Ingredient | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---------------|--------------------|-------------------------------|-------------------|---------------|
| Ardex RA 54 Part B | Not Available | Not Available | Not Available | Not Available | Not Available |
| castor oil | EC50(ECx) | 72h | Algae or other aquatic plants | >100mg/l | 2 |
| | EC50 | 72h | Algae or other aquatic plants | >100mg/l | 2 |
| | EC50 | 48h | Crustacea | >100mg/l | 2 |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | Not Available | Not Available | Not Available | Not Available | Not Available |
| titanium dioxide | EC50 | 72h | Algae or other aquatic plants | 3.75-7.58mg/l | 4 |
| | BCF | 1008h | Fish | <1.1-9.6 | 7 |
| | EC50 | 48h | Crustacea | 1.9mg/l | 2 |
| | LC50 | 96h | Fish | 1.85-3.06mg/l | 4 |
| | NOEC(ECx) | 504h | Crustacea | 0.02mg/l | 4 |
| | EC50 | 96h | Algae or other aquatic plants | 179.05mg/l | 2 |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | Not Available | Not Available | Not Available | Not Available | Not Available |
| carbon black | EC50 | 72h | Algae or other aquatic plants | >0.2mg/l | 2 |
| | LC50 | 96h | Fish | >100mg/l | 2 |
| | EC50 | 48h | Crustacea | 33.076-41.968mg/l | 4 |
| | NOEC(ECx) | 24h | Crustacea | 3200mg/l | 1 |

Legend: 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

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------------|-------------------------|------------------|
| titanium dioxide | HIGH | HIGH |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------------|-----------------|
| titanium dioxide | HIGH |

Ardex RA 54 Part B

| Ingredient | Bioaccumulation |
|------------------|-----------------|
| titanium dioxide | LOW (BCF = 10) |

Mobility in soil

| Ingredient | Mobility |
|------------------|-------------------|
| titanium dioxide | LOW (KOC = 23.74) |

SECTION 13 Disposal considerations

Waste treatment methods

| | |
|-------------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill. |
|-------------------------------------|--|

SECTION 14 Transport information

Labels Required

| | |
|-------------------------|----------------|
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

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

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

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

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 |
|---|---------------|
| castor oil | Not Available |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | Not Available |
| titanium dioxide | Not Available |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | Not Available |
| carbon black | Not Available |

Transport in bulk in accordance with the ICG Code

| Product name | Ship Type |
|---|---------------|
| castor oil | Not Available |
| 2,6-bis(methylthio)-4-methyl-1,3-benzenediamine | Not Available |
| titanium dioxide | Not Available |
| 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine | Not Available |
| carbon black | Not Available |

SECTION 15 Regulatory information

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

castor oil is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

2,6-bis(methylthio)-4-methyl-1,3-benzenediamine is found on the following regulatory lists

Not Applicable

titanium dioxide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

4,6-bis(methylthio)-2-methyl-1,3-benzenediamine is found on the following regulatory lists

Not Applicable

carbon black is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Canada - DSL | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Canada - NDSL | No (castor oil; carbon black) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Japan - ENCS | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Korea - KECI | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Vietnam - NCI | Yes |
| Russia - FBEPH | No (2,6-bis(methylthio)-4-methyl-1,3-benzenediamine; 4,6-bis(methylthio)-2-methyl-1,3-benzenediamine) |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

SECTION 16 Other information

| | |
|----------------------|------------|
| Revision Date | 01/11/2019 |
| Initial Date | 19/05/2016 |

SDS Version Summary

| Version | Date of Update | Sections Updated |
|----------|----------------|--|
| 5.1.1.1 | 26/12/2018 | Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Advice to Doctor, Appearance, Chronic Health, Classification, Disposal, Engineering Control, Environmental, Fire Fighter (extinguishing media), Fire Fighter (fire/explosion hazard), First Aid (eye), First Aid (inhaled), First Aid (swallowed), Handling Procedure, Ingredients, Instability Condition, Personal Protection (other), Personal Protection (Respirator), Personal Protection (hands/feet), Physical Properties, Spills (major), Spills (minor), Storage (storage incompatibility), Storage (storage requirement), Storage (suitable container), Transport, Transport Information, Name |
| 6.1.1.1 | 01/11/2019 | One-off system update. NOTE: This may or may not change the GHS classification |
| 6.1.2.1 | 26/04/2021 | Regulation Change |
| 6.1.3.1 | 03/05/2021 | Regulation Change |
| 6.1.4.1 | 06/05/2021 | Regulation Change |
| 6.1.5.1 | 10/05/2021 | Regulation Change |
| 6.1.5.2 | 30/05/2021 | Template Change |
| 6.1.5.3 | 04/06/2021 | Template Change |
| 6.1.5.4 | 05/06/2021 | Template Change |
| 6.1.6.4 | 07/06/2021 | Regulation Change |
| 6.1.6.5 | 09/06/2021 | Template Change |
| 6.1.6.6 | 11/06/2021 | Template Change |
| 6.1.6.7 | 15/06/2021 | Template Change |
| 6.1.7.7 | 17/06/2021 | Regulation Change |
| 6.1.8.7 | 21/06/2021 | Regulation Change |
| 6.1.8.8 | 05/07/2021 | Template Change |
| 6.1.9.8 | 14/07/2021 | Regulation Change |
| 6.1.10.8 | 19/07/2021 | Regulation Change |

| Version | Date of Update | Sections Updated |
|-----------|----------------|-------------------|
| 6.1.10.9 | 01/08/2021 | Template Change |
| 6.1.11.9 | 02/08/2021 | Regulation Change |
| 6.1.12.9 | 05/08/2021 | Regulation Change |
| 6.1.13.9 | 09/08/2021 | Regulation Change |
| 6.1.14.9 | 23/08/2021 | Regulation Change |
| 6.1.15.9 | 26/08/2021 | Regulation Change |
| 6.1.15.10 | 29/08/2021 | Template Change |
| 6.1.16.10 | 30/08/2021 | Regulation Change |
| 6.1.17.10 | 06/09/2021 | Regulation Change |

Other information

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

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

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
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
AIIIC: 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

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.