



## RS Industrial Cyanoacrylate Adhesive #473-461

RS Components Pty Ltd

Chemwatch: 87030

Version No: 5.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 2

Issue Date: 17/05/2017

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L.GHS.AUS.EN

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

#### Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | RS Industrial Cyanoacrylate Adhesive #473-461  |
| Synonyms                      | Not Available  |
| Proper shipping name          | AVIATION REGULATED LIQUID, N.O.S. Not subject to this Code (see SP 106) (contains ethyl cyanoacrylate) |
| Other means of identification | Not Available  |

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

|                          |                        |
|--------------------------|------------------------|
| Relevant identified uses | Cyanoacrylate adhesive |
|--------------------------|------------------------|

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

|                         |                                     |
|-------------------------|-------------------------------------|
| Registered company name | RS Components Pty Ltd               |
| Address                 | 25 Pavesi Street NSW 2164 Australia |
| Telephone               | 1300 656 636                        |
| Fax                     | 1300 656 696                        |
| Website                 | Not Available                       |
| Email                   | Not Available                       |

#### Emergency telephone number

|                                   |               |
|-----------------------------------|---------------|
| Association / Organisation        | Not Available |
| Emergency telephone numbers       | 1800 039 008  |
| Other emergency telephone numbers | 03 95733112   |

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

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

COMBUSTIBLE LIQUID, regulated for storage purposes only

#### CHEMWATCH HAZARD RATINGS

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 1   |     |
| Toxicity     | 0   |     |
| Body Contact | 2   |     |
| Reactivity   | 1   |     |
| Chronic      | 0   |     |


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

|                    |   |
|--------------------|---|
| Poisons Schedule   | S5  |
| Classification [1] | Flammable Liquid Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation) |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI   |

#### Label elements

Continued...

RS Industrial Cyanoacrylate Adhesive #473-461

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

|             |                |
|-------------|----------------|
| SIGNAL WORD | <b>WARNING</b> |
|-------------|----------------|

**Hazard statement(s)**

|      |                                   |
|------|-----------------------------------|
| H227 | Combustible liquid                |
| H315 | Causes skin irritation.           |
| H319 | Causes serious eye irritation.    |
| H335 | May cause respiratory irritation. |

**Precautionary statement(s) Prevention**

|      |  |
|------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.         |
| P271 | Use only outdoors or in a well-ventilated area.                            |
| P261 | Avoid breathing mist/vapours/spray.  |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Precautionary statement(s) Response**

|                |  |
|----------------|--|
| P362           | Take off contaminated clothing and wash before reuse.  |
| P370+P378      | In case of fire: Use alcohol resistant foam or normal protein foam for extinction.   |
| 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 or doctor/physician if you feel unwell.   |

**Precautionary statement(s) Storage**

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

**Precautionary statement(s) Disposal**

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

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No    | %[weight] | Name                       |
|-----------|-----------|----------------------------|
| 7085-85-0 | >80       | <u>ethyl cyanoacrylate</u> |

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | <p><b>Eyelid Adhesion</b></p> <ul style="list-style-type: none"> <li>▶ Wash thoroughly with water and apply moist pad; maintain in position.</li> <li>▶ <b>DO NOT force separation.</b></li> <li>▶ Transport to hospital, or doctor without delay.</li> <li>▶ Minor eye contamination should be treated by copious washing with water or 1% sodium carbonate solution.</li> <li>▶ The eye will generally open without further action, typically in one to two days. there should be no residual damage.</li> <li>▶ Adhesive introduced</li> <li>▶ Removal of contact lenses after eye injury should only be undertaken by skilled personnel.</li> </ul> <p><b>Adhesive in the Eye:</b></p> <ul style="list-style-type: none"> <li>▶ Adhesive will attach itself to eye proteins and will disassociate from these over intermittent periods, usually within several hours.</li> <li>▶ This will result in weeping until clearance of the protein complex.</li> <li>▶ It is important to understand that disassociation will normally occur within a matter of hours even with gross contamination.</li> </ul>                     |
| <b>Skin Contact</b> | <p>Cyanoacrylate adhesives is a very fast setting and strong, they bond human tissues including skin in seconds. Experience shows that accidents involving cyanoacrylates are best handled by passive, non-surgical first aid.</p> <p><b>Skin Contact:</b></p> <ul style="list-style-type: none"> <li>▶ Remove excessive adhesive.</li> <li>▶ Soak in warm water - the adhesive should loosen from the skin in several hours. Dried adhesive does not present a health hazard.</li> <li>▶ Contact with clothes, fabric, rags or tissues may generate heat, and strong irritating odours; skin burns may also ensue.</li> </ul> <p><b>Skin Adhesion:</b></p> <ul style="list-style-type: none"> <li>▶ <b>IMMEDIATELY</b> immerse affected areas in warm soapy water.</li> <li>▶ <b>DO NOT force bonded surfaces apart.</b></li> <li>▶ Use a gentle rolling action to peel surfaces apart if possible. It may be necessary to use a blunt edge such as a spatula or spoon handle. Do NOT attempt to pull the surfaces apart with a direct opposing action.</li> <li>▶ Remove any cured material with warm, soapy water.</li> </ul> |

|                   |   |
|-------------------|---|
|                   | <ul style="list-style-type: none"> <li>▶ Seek medical attention without delay.</li> <li>▶ A solvent such as acetone may be used (with care!) to separate bonded skin surfaces. <b>NEVER use solvent near eyes, mouth, cuts, or abrasions.</b></li> </ul>  |
| <b>Inhalation</b> | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ 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.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul> |
| <b>Ingestion</b>  | <ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> <li>▶ For material bonded in the mouth seek medical/dental attention.</li> <li>▶ If lips are accidentally stuck together apply lots of warm water and encourage maximum wetting and pressure from saliva inside the mouth.</li> <li>▶ Peel or roll lips apart.</li> <li>▶ <b>Do NOT attempt to pull the lips with direct opposing action.</b></li> <li>▶ It is almost impossible to swallow cyanoacrylates. The adhesive solidifies and adheres in the mouth. Saliva will lip the adhesion in one or two days.</li> </ul>           |

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

Treat symptomatically.

It should never be necessary to use surgical means to separate tissues which become accidentally bonded. The action of physiological fluids or warm soapy water will cause this adhesive to eventually fail.

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

### Special hazards arising from the substrate or mixture

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

### Advice for firefighters

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>   |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include:</p> <ul style="list-style-type: none"> <li>, carbon dioxide (CO<sub>2</sub>)</li> <li>, nitrogen oxides (NO<sub>x</sub>)</li> <li>, other pyrolysis products typical of burning organic material.</li> </ul> <p><b>Contains low boiling substance:</b> Closed containers may rupture due to pressure buildup under fire conditions.</p> |
| <b>HAZCHEM</b>               | 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

|                     |   |
|---------------------|---|
| <b>Minor Spills</b> | <p>If cloth has been used to wipe up spills, immediately soak the cloth in water to produce polymerisation and prevent possibility of autoignition.</p> <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul> |
| <b>Major Spills</b> | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul>   |

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

## SECTION 7 HANDLING AND STORAGE

**Precautions for safe handling**

|                          |   |
|--------------------------|---|
| <b>Safe handling</b>     | <p><b>Contains low boiling substance:</b><br/>Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> <li>▶ Check for bulging containers.</li> <li>▶ Vent periodically</li> <li>▶ Always release caps or seals slowly to ensure slow dissipation of vapours</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul> |
| <b>Other information</b> | <p>Consider storage under inert gas.</p> <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> </ul>  |

**Conditions for safe storage, including any incompatibilities**

|                                |   |
|--------------------------------|---|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Metal can or drum</li> <li>▶ Packaging as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>  |
| <b>Storage incompatibility</b> | <p>For cyanoacrylates:</p> <ul style="list-style-type: none"> <li>▶ Avoid contact with acids, bases, amines.</li> <li>▶ Avoid contact with clothes, fabric, rags (especially cotton and wool) rubber or paper; contact may cause polymerisation.</li> <li>▶ Cyanoacrylate adhesives undergo anionic polymerization in the presence of a weak base, such as water, and are stabilized through the addition of a weak acid. The stabiliser is usually in the form of a weak acidic gas such as SO<sub>2</sub>, NO, or BF<sub>3</sub>.</li> <li>▶ Segregate from alcohol, water.</li> <li>▶ Avoid reaction with oxidising agents</li> <li>▶ <b>NOTE:</b> May develop pressure in containers; open carefully. Vent periodically.</li> </ul> |

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION****Control parameters****OCCUPATIONAL EXPOSURE LIMITS (OEL)****INGREDIENT DATA**

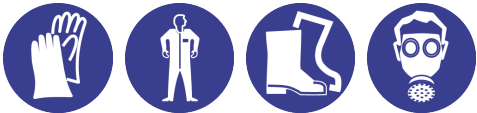
Not Available

**EMERGENCY LIMITS**

| Ingredient                                    | Material name | TEEL-1        | TEEL-2        | TEEL-3        |
|---|---------------|---------------|---------------|---------------|
| RS Industrial Cyanoacrylate Adhesive #473-461 | Not Available | Not Available | Not Available | Not Available |

| Ingredient          | Original IDLH | Revised IDLH  |
|---------------------|---------------|---------------|
| ethyl cyanoacrylate | Not Available | Not Available |

**MATERIAL DATA****Exposure controls**

|   |   |
|---|---|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>  |
| <b>Personal protection</b>              |    |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ 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.</li> </ul>   |
| <b>Skin protection</b>                  | See Hand protection below   |
| <b>Hands/feet protection</b>            | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <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"> <li>▶ Polyethylene gloves</li> </ul> |
| <b>Body protection</b>                  | See Other protection below  |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> </ul>  |

Continued...

|                        |               |
|------------------------|---------------|
| <b>Thermal hazards</b> | Not Available |
|------------------------|---------------|

### 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)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Colourless viscous liquid with an acrid odour; polymerises in water. Mixes with acetone. |  |                |
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | 1.07 approx.   |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Available  | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</b>                         | 107.00         |
| <b>Initial boiling point and boiling range (°C)</b> | >150   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | >85  | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Applicable   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Combustible.   | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Available  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Available  | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | 0.01 approx. @ 25 C  | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water (g/L)</b>                    | Reacts   | <b>pH as a solution (1%)</b>                   | Not Available  |
| <b>Vapour density (Air = 1)</b>                     | Not Available  | <b>VOC g/L</b>                                 | Not Available  |

## SECTION 10 STABILITY AND REACTIVITY

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

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

|                |  |
|----------------|--|
| <b>Inhaled</b> | <p>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Cyanoacrylate vapours are irritating to the upper respiratory tract. In very dry atmospheres (below 50% relative humidity), vapour will irritate the eyes and respiratory system. High vapour concentrations may cause pneumonitis or other respiratory complications including chemical bronchitis. When relative humidity is adjusted above 55% by use of suitable humidifiers there should be little or no irritant effects.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> |
|----------------|--|

RS Industrial Cyanoacrylate Adhesive #473-461

|                     |   |
|---------------------|---|
| <b>Ingestion</b>    | Uncured cyanoacrylates are difficult to swallow as saliva cures the surface of the adhesive with negligible bonding. The cured material is considered to be non-hazardous.<br>Ingestion may result in nausea, abdominal irritation, pain and vomiting   |
| <b>Skin Contact</b> | Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.<br>The material may accentuate any pre-existing dermatitis condition<br><br>The material will bond human tissues within seconds. A large drop undergoing curing on the skin may cause thermal burns. No permanent skin damage is known to occur from a single dermal exposure although a small proportion of individuals show sensitisation and allergic skin reactions following repeated and prolonged exposure. Monomeric homologues of the n-alkyl cyanoacrylates (from methyl to octyl) undergo an exothermic reaction on polymerisation.<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, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. |
| <b>Eye</b>          | Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.<br>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.<br>Vapour exposure to 40-60 ppm cyanoacrylate is objectionable producing lachrymation, rhinorrhoea and blurred vision. The material is capable of gluing the eyelids together. Free moisture on the eyeball usually cures the surface of the adhesive with negligible bonding. If the eyeballs or lids are bonded, the eye will become mobile after 1-2 days without permanent damage.  |
| <b>Chronic</b>      | Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.<br>Dermatitis may result from prolonged exposures. On repeated and prolonged exposure by skin contact or inhalation, a small proportion of individuals develop allergic sensitivities.  |

|  |  |                   |
|--|--|-------------------|
| <b>RS Industrial Cyanoacrylate Adhesive #473-461</b> | <b>TOXICITY</b>                                  | <b>IRRITATION</b> |
|  | Not Available                                    | Not Available     |
| <b>ethyl cyanoacrylate</b>                           | <b>TOXICITY</b>                                  | <b>IRRITATION</b> |
|  | Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup> | Not Available     |
|  | Oral (rat) LD50: >5000 mg/kgd <sup>[2]</sup>     |                   |

**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

|                            |   |
|----------------------------|---|
| <b>ETHYL CYANOACRYLATE</b> | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.<br>For methyl cyanoacrylate (MCA) and ethyl cyanoacrylate (ECA)<br>From the data available, the key toxicological features of MCA and ECA seem to be as a result of local activity at the site of contact. Human data indicate that liquid MCA and ECA are not skin irritants as a result of single exposure. However, there are indications from human studies that repeated exposure can result in skin irritant effects. Eye irritancy has been observed in humans exposed to liquid cyanoacrylate adhesives.<br>* [AIHAAP] |
|----------------------------|---|

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

**Legend:** ✘ – Data available but does not fill the criteria for classification  
✔ – Data available to make classification  
☒ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

|  | ENDPOINT       | TEST DURATION (HR) | SPECIES                       | VALUE          | SOURCE         |
|--|----------------|--------------------|-------------------------------|----------------|----------------|
| <b>RS Industrial Cyanoacrylate Adhesive #473-461</b> | Not Applicable | Not Applicable     | Not Applicable                | Not Applicable | Not Applicable |
|  |                |                    |                               |                |                |
| <b>ethyl cyanoacrylate</b>                           | ENDPOINT       | TEST DURATION (HR) | SPECIES                       | VALUE          | SOURCE         |
|  | LC50           | 96                 | Fish                          | 0.662mg/L      | 3              |
|  | EC50           | 96                 | Algae or other aquatic plants | 2.407mg/L      | 3              |

Continued...

**RS Industrial Cyanoacrylate Adhesive #473-461**

**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

**DO NOT** discharge into sewer or waterways.

**Persistence and degradability**

| Ingredient          | Persistence: Water/Soil | Persistence: Air |
|---------------------|-------------------------|------------------|
| ethyl cyanoacrylate | LOW                     | LOW              |

**Bioaccumulative potential**

| Ingredient          | Bioaccumulation       |
|---------------------|-----------------------|
| ethyl cyanoacrylate | LOW (LogKOW = 1.4174) |

**Mobility in soil**

| Ingredient          | Mobility          |
|---------------------|-------------------|
| ethyl cyanoacrylate | LOW (KOC = 6.847) |

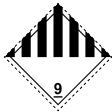
**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

| Product / Packaging disposal | Waste treatment methods   |
|------------------------------|---|
|                              | <ul style="list-style-type: none"> <li>▶ <b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

|                         |   |
|-------------------------|---|
|                         |  |
| <b>Marine Pollutant</b> | NO  |
| <b>HAZCHEM</b>          | Not Applicable  |

**Land transport (ADG)**

|                                     |   |                    |             |                  |                |
|-------------------------------------|---|--------------------|-------------|------------------|----------------|
| <b>UN number</b>                    | 3334  |                    |             |                  |                |
| <b>UN proper shipping name</b>      | AVIATION REGULATED LIQUID, N.O.S. Not subject to this Code (see SP 106) (contains ethyl cyanoacrylate)                                  |                    |             |                  |                |
| <b>Transport hazard class(es)</b>   | <table border="0"> <tr> <td>Class</td> <td>9</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>                    | Class              | 9           | Subrisk          | Not Applicable |
| Class                               | 9   |                    |             |                  |                |
| Subrisk                             | Not Applicable  |                    |             |                  |                |
| <b>Packing group</b>                | Not Applicable  |                    |             |                  |                |
| <b>Environmental hazard</b>         | Not Applicable  |                    |             |                  |                |
| <b>Special precautions for user</b> | <table border="0"> <tr> <td>Special provisions</td> <td>106 274 276</td> </tr> <tr> <td>Limited quantity</td> <td>0</td> </tr> </table> | Special provisions | 106 274 276 | Limited quantity | 0              |
| Special provisions                  | 106 274 276   |                    |             |                  |                |
| Limited quantity                    | 0   |                    |             |                  |                |

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

|                                     |  |                    |     |                                 |                |                               |      |
|-------------------------------------|--|--------------------|-----|---------------------------------|----------------|-------------------------------|------|
| <b>UN number</b>                    | 3334   |                    |     |                                 |                |                               |      |
| <b>UN proper shipping name</b>      | AVIATION REGULATED LIQUID, N.O.S. (contains ethyl cyanoacrylate)   |                    |     |                                 |                |                               |      |
| <b>Transport hazard class(es)</b>   | <table border="0"> <tr> <td>ICAO/IATA Class</td> <td>9</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>9A</td> </tr> </table>                              | ICAO/IATA Class    | 9   | ICAO / IATA Subrisk             | Not Applicable | ERG Code                      | 9A   |
| ICAO/IATA Class                     | 9  |                    |     |                                 |                |                               |      |
| ICAO / IATA Subrisk                 | Not Applicable   |                    |     |                                 |                |                               |      |
| ERG Code                            | 9A   |                    |     |                                 |                |                               |      |
| <b>Packing group</b>                | Not Applicable   |                    |     |                                 |                |                               |      |
| <b>Environmental hazard</b>         | Not Applicable   |                    |     |                                 |                |                               |      |
| <b>Special precautions for user</b> | <table border="0"> <tr> <td>Special provisions</td> <td>A27</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>964</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>450L</td> </tr> </table> | Special provisions | A27 | Cargo Only Packing Instructions | 964            | Cargo Only Maximum Qty / Pack | 450L |
| Special provisions                  | A27  |                    |     |                                 |                |                               |      |
| Cargo Only Packing Instructions     | 964  |                    |     |                                 |                |                               |      |
| Cargo Only Maximum Qty / Pack       | 450L   |                    |     |                                 |                |                               |      |

|   |         |
|---|---------|
| Passenger and Cargo Packing Instructions                  | 964     |
| Passenger and Cargo Maximum Qty / Pack                    | 450L    |
| Passenger and Cargo Limited Quantity Packing Instructions | Y964    |
| Passenger and Cargo Limited Maximum Qty / Pack            | 30 kg G |

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

|                                     |  |                |
|-------------------------------------|--|----------------|
| <b>UN number</b>                    | 3334   |                |
| <b>UN proper shipping name</b>      | Aviation regulated liquid, n.o.s. * (contains ethyl cyanoacrylate) |                |
| <b>Transport hazard class(es)</b>   | IMDG Class   | 9              |
|                                     | IMDG Subrisk   | Not Applicable |
| <b>Packing group</b>                | Not Applicable   |                |
| <b>Environmental hazard</b>         | Not Applicable   |                |
| <b>Special precautions for user</b> | EMS Number   | Not Applicable |
|                                     | Special provisions   | 960            |
|                                     | Limited Quantities   | Not Applicable |

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

Not Applicable

**SECTION 15 REGULATORY INFORMATION****Safety, health and environmental regulations / legislation specific for the substance or mixture****ETHYL CYANOACRYLATE(7085-85-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

| National Inventory            | Status  |
|-------------------------------|---|
| Australia - AICS              | Y   |
| Canada - DSL                  | Y   |
| Canada - NDSL                 | N (ethyl cyanoacrylate)   |
| China - IECSC                 | Y   |
| Europe - EINEC / ELINCS / NLP | Y   |
| Japan - ENCS                  | N (ethyl cyanoacrylate)   |
| Korea - KECI                  | Y   |
| New Zealand - NZIoC           | Y   |
| Philippines - PICCS           | Y   |
| USA - TSCA                    | Y   |
| <b>Legend:</b>                | Y = All ingredients are on the inventory<br>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets) |

**SECTION 16 OTHER INFORMATION****Other information**

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

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

**Definitions and abbreviations**

PC – TWA: Permissible Concentration-Time Weighted Average  
 PC – STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit,  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL: No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index

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