PRISM RANGE CYANOACRYLATE ADHESIVES #496-108, #514-622

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
PRISM RANGE CYANOACRYLATE ADHESIVES #496-108, #514-622

SYNONYMS
CP-0126/1, "methoxyethyl cyanoacrylate", "RS Components"

PRODUCT USE
Extremely strong, fast-setting, general purpose adhesive for cosmetically critical bonding (non-frosting).

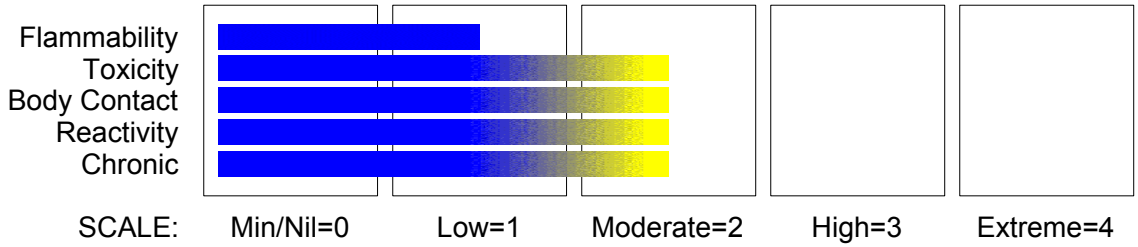
SUPPLIER

Company: RS Components	Company: RS Components
Address:	Address:
Units 30 & 31	25 Pavesi Street
Warehouse World	Smithfield
761 Great South Road	NSW2164
Penrose Auckland	AUS
	Telephone: 1300 656 636
	Emergency Tel: 1800 039 008
	Emergency Tel: 03 9573 3112
	Fax: 1300 656 696

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.
COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.

CHEMWATCH HAZARD RATINGS



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POISONS SCHEDULE

None

RISK

- Contact with combustible material may cause fire.
- Irritating to eyes respiratory system and skin.
- Inhalation and/or ingestion may produce health damage*.
- Cumulative effects may result following exposure*.
- Possible respiratory and skin sensitiser*.
- Vapours potentially cause drowsiness and dizziness*.

* (limited evidence).

SAFETY

- Keep away from combustible material.
- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Wear eye/face protection.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- To clean the floor and all objects contaminated by this material use water and detergent.
- Keep container tightly closed.
- In case of contact with eyes rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methoxyethyl cyanoacrylate	27816-23-5	<99
polyalkylmethacrylate		<5
stabilisers		<1
hydrolyses to form		
methanol	67-56-1	

Section 4 - FIRST AID MEASURES

SWALLOWED

- 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.

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• Transport to hospital or doctor without delay.
• For material bonded in the mouth seek medical/dental attention.
• If lips are accidentally stuck together apply lots of warm water and encourage maximum wetting and pressure from saliva inside the mouth.
• Peal or roll lips apart.
• Do NOT attempt to pull the lips with direct opposing action.
• 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.

EYE
■ Eyelid Adhesion
• Wash thoroughly with water and apply moist pad; maintain in position.
• DO NOT force separation.
• Transport to hospital, or doctor without delay.
• Minor eye contamination should be treated by copious washing with water or 1% sodium carbonate solution.
• The eye will generally open without further action, typically in one to two days. there should be no residual damage.
• Adhesive introduced
• Removal of contact lenses after eye injury should only be undertaken by skilled personnel.
Adhesive in the Eye:
• Adhesive will attach itself to eye proteins and will disassociate from these over intermittent periods, usually within several hours.
• This will result in weeping until clearance of the protein complex.
• It is important to understand that disassociation will normally occur within a matter of hours even with gross contamination.

SKIN
■ 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.
Skin Contact:
• Remove excessive adhesive.
• Soak in warm water - the adhesive should loosen from the skin in several hours. Dried adhesive does not present a health hazard.
• Contact with clothes, fabric, rags or tissues may generate heat, and strong irritating odours; skin burns may also ensue.
Skin Adhesion:
• IMMEDIATELY immerse affected areas in warm soapy water.
• DO NOT force bonded surfaces apart.
• 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.
• Remove any cured material with warm, soapy water.
• Seek medical attention without delay.
• A solvent such as acetone may be used (with care!) to separate bonded skin surfaces. NEVER use solvent near eyes, mouth, cuts, or abrasions.

INHALED
• If fumes or combustion products are inhaled remove from contaminated area.
• Lay patient down. Keep warm and rested.
• Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
• Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
• Transport to hospital, or doctor.

NOTES TO PHYSICIAN
■ 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.

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Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
• Foam.
• Dry chemical powder.
Carbon dioxide.

FIRE FIGHTING
■ Alert Fire Brigade and tell them location and nature of hazard.
• Wear breathing apparatus plus protective gloves.
• Prevent, by any means available, spillage from entering drains or water courses.
Cool fire exposed containers with water spray from a protected location.
DO NOT approach containers suspected to be hot.
If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD
■ Combustible liquid.
Moderate fire hazard when exposed to heat or flame.
On combustion, emits toxic fumes of: hydrogen cyanide, nitrogen oxides (NOx), carbon monoxide (CO) and carbon dioxide (CO2).

FIRE INCOMPATIBILITY
• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM: None

Personal Protective Equipment
Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
■ Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Wear impervious gloves and safety glasses.
Add water to cure (harden) the substance.
Scrape up the cured (hardened) substance.
Place in suitable containers for disposal.
If cloth has been used to wipe up spills, immediately soak the cloth in water to produce polymerisation and prevent possibility of autoignition.

MAJOR SPILLS
■ Clear area of personnel.
Alert Fire Brigade and tell them location and nature of hazard.
Control personal contact by using protective equipment.
Prevent, by any means available, spillage from entering drains or water courses.
Increase ventilation.
Absorb or cover spill with sand, earth, inert material or vermiculite.
Add water to cure (harden) the substance.
Acetone may be used to soften the cured (hardened) substance before removal.
Scrape up the cured (hardened) substance.
Collect residues and seal in labelled drums for disposal.
Use a solvent to clean the area.

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If contamination of drains or waterways occurs, advise emergency services.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

■ Use good occupational work practice. Observe manufacturer's storing and handling recommendations.
Avoid all personal contact, including inhalation.
Avoid generating and breathing vapour.
Wear protective clothing when risk of exposure occurs.
Use in a well-ventilated area.
Avoid contact with incompatible materials.
Avoid contact with moisture.
DO NOT dilute or mix with water or other products.
Handle and open container with care.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Wash hands with soap and water after handling.

SUITABLE CONTAINER

• Check that containers are clearly labelled.
• Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

• Avoid reaction with oxidising agents.
Avoid contact with, water, alcohols, selected amines, alkalies, peroxides and metal oxides.

STORAGE REQUIREMENTS

• Store in original containers.
• Keep containers securely sealed.
• Store in a cool, dry area protected from environmental extremes.
• Store away from incompatible materials and foodstuff containers.
• Protect containers against physical damage and check regularly for leaks.
• Observe manufacturer's storing and handling recommendations
For major quantities:
• Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams}.
• Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.
Store in original containers.
• Keep containers securely sealed.
Store in a cool, dry place.
• Keep dry.
Store away from incompatible materials.
Store at ambient temperatures.
Protect containers against physical damage.
• Check regularly for spills and leaks.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

X X X X X 0

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+: May be stored together
O: May be stored together with specific preventions
X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Notes
Australia Exposure Standards	methanol (Methyl alcohol)	200	262	250	328	Sk

The following materials had no OELs on our records
• methoxyethyl cyanoacrylate: CAS:27816- 23- 5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
methanol		6, 000

ODOUR SAFETY FACTOR (OSF)
OSF=2 (methoxyethyl cyanoacrylate)
■ Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

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MATERIAL DATA
PRISM RANGE CYANOACRYLATE ADHESIVES #496-108, #514-622:
■ None assigned. Refer to individual constituents.

METHOXYETHYL CYANOACRYLATE:
CEL TWA: 0.2 ppm, 1.25 mg/m3 (compare TLV-TWA ethyl cyanoacrylate)

METHANOL:
■ For methanol:

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Odour Threshold Value: 4.2-5960 ppm (detection), 53.0-8940 ppm (recognition)
NOTE: Detector tubes for methanol, measuring in excess of 50 ppm, are commercially available.
Exposure at or below the recommended TLV-TWA is thought to substantially reduce the significant risk of headache, blurred vision and other ocular and systemic effects.
Odour Safety Factor (OSF)
OSF=2 (METHANOL).

PERSONAL PROTECTION




EYE
• Chemical goggles.
DO NOT wear contact lenses.
• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET
• Polyethylene gloves.
• PVC gloves.
• Safety footwear.

OTHER
■ Overalls.
• Impervious apron.
• Barrier cream.
• Eyewash unit.
Ensure there is ready access to a safety shower.

RESPIRATOR
■ 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.

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	AX- AUS P	-	AX- PAPR- AUS P
50 x ES	-	AX- AUS P	-
100 x ES	-	AX- 2 P	AX- PAPR- 2 P ^

^ - Full-face.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

■ General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25- 0.5 m/s (50- 100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5- 1 m/s (100- 200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1- 2.5 m/s (200- 500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

■ Full face respirator with supplied air.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear colourless liquid with a characteristic odour.
Moisture initiates polymerisation. Solidifies instantly in contact with water.

PHYSICAL PROPERTIES

Liquid.

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Molecular Weight: Not applicable	Boiling Range (°C): >100	Melting Range (°C): >- 10
Specific Gravity (water=1): 1.1 (approx.)	Solubility in water (g/L): Reacts	pH (as supplied): Not applicable
pH (1% solution): Not applicable	Vapour Pressure (kPa): 0.03- 0.07 @ 25C	Volatile Component (%vol): Not available
Evaporation Rate: Not available	Relative Vapour Density (air=1): 3.0 (approx.)	Flash Point (°C): >80
Lower Explosive Limit (%): Not available	Upper Explosive Limit (%): Not available	Autoignition Temp (°C): Not available
Decomposition Temp (°C): Not available	State: Liquid	

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY
■ Presence of water.
• Presence of incompatible materials.
Storage in unsealed containers.
Product is considered stable under normal handling conditions.
Hazardous polymerisation will not occur.
For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ 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.
Considered an unlikely route of entry in commercial/industrial environments.
■ Methanol may produce a burning or painful sensation in the mouth, throat, chest and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death. Onset of symptoms may be delayed for several hours. Effects are due partly to acidosis and partly to cerebral oedema. Visual impairment produces blurring, double vision (diplopia), changes in colour perception, restriction of visual fields and blindness. 60-200 ml of methanol is a fatal dose for most adults with as little as 10 ml producing blindness. In massive overdose, liver, kidney, heart and muscle injury have been described.

EYE
■ The vapour/liquid is highly discomforting to the eyes.
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. Weeping and double vision may occur during this time. Although cyanoacrylates do not bond to the eyeball the cured material may scratch the cornea.

SKIN
■ The material is highly discomforting to the skin and may cause chemical burns.
Sensitisation may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities.
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

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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. The heat of polymerisation and the release of toxic metabolites upon degradation (thought to be formaldehyde and cyanoacetate) probably account for death or damage to the cells of tissues following exposure. Irritant dermatitis may occur following exposure to monomer vapours at low relative humidity. When the humidity is raised above 55%, skin complaints generally cease.

INHALED
■ The vapour is discomforting to the upper respiratory tract.
Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.
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. Such vapours produce no acute or chronic effects in normal industrial exposures with appropriate industrial hygiene controls.
Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting.
WARNING: Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [CCINFO].

CHRONIC HEALTH EFFECTS
■ Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.
Dermatitis may result from prolonged exposures. On repeated and prolonged exposure by skin contact or inhalation, a small proportion of individuals develop allergic sensitivities.
The toxic properties of cyanide result from its ability to inhibit enzymes required for the respiration of cells within the body.
Chronic exposure to cyanides, at levels too low to produce clinical complaints, may cause dermatitis, itching, scarlet rash, perforation of nasal septum, throat irritation, muscular cramps, weight loss and enlargement of the thyroid gland. Workers with pre-existing CNS, heart and lung disorders are at significant risk.
A wide range of symptoms are thought to be caused by long-term, low-level (often less than 10 ppm) exposure to cyanides. Symptoms include persistent runny nose, weakness, dizziness, giddiness, headache, nausea, vomiting, abdominal pain, throat irritation, changes in taste and smell, muscle cramps, weight loss, flushing of the face, itching and irritation of the upper respiratory tract, throat and eyes and enlargement of the thyroid gland. These symptoms are not specific to cyanide exposure; therefore it has been difficult to prove that chronic cyanide toxicity exists.
Repeated minor contact with cyanides produces a characteristic scarlet rash with itching, papules (small, superficial raised spots on the skin), perforation of the nasal septum and possible sensitisation. Concerns have been expressed that low-level, long term exposures may result in damage to the nerves of the eye.
Chronic exposure to cyanides and certain nitriles may result in interference to iodine uptake by thyroid gland and its consequent enlargement. This occurs following metabolic conversion of the cyanide moiety to the less toxic thiocyanate which is excreted in the urine. Thyroid insufficiency may also occur as a result of metabolic conversion of cyanides to the corresponding thiocyanate..
A small amount of cyanide is excreted, unchanged, in the breath, sweat and urine.
Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result. Some individuals show severe eye damage following prolonged exposure to 800 ppm of the vapour.

TOXICITY AND IRRITATION
■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (rat) LD50: >5000 mg/kg*	Nil Reported

continued...

Dermal (rabbit) LD50: >2000 mg/kg*

*[RS Components]

METHOXYETHYL CYANOACRYLATE:
■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (rat) LD50: >5000 mg/kg *	Nil Reported

*[Henkel]

■ Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer de facto carcinogens.

SKIN

methanol	Australia Exposure Standards - Skin	Notes	Sk

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

METHANOL:
■ For methanol:
log Kow : -0.82- -0.66
Half-life (hr) air : 427
Half-life (hr) H2O surface water : 5.3-64
Henry's atm m3 /mol: 1.35E-04
BOD 5 0.76-1.12
COD : 1.05-1.50, 99%
ThOD : 1.5
BCF : 0.2-10
Environmental Fate
TERRESTRIAL FATE: An estimated Koc value of 1 indicates that methanol is expected to have very high mobility in soil. Volatilisation of methanol from moist soil surfaces is expected to be an important fate process given a Henry's Law constant of 4.55x10-6 atm-cu m/mole. The potential for volatilisation of methanol from dry soil surfaces may exist based upon a vapor pressure of 127 mm Hg. Biodegradation is expected to be an important fate process for methanol based on half-lives of 1 and 3.2 days measured in a sandy silt loam and sandy loam from Texas and Mississippi, respectively.
AQUATIC FATE: The estimated Koc indicates that methanol is not expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected based upon a Henry's Law constant Usi
Henry's Law constant estimated volatilisation half-lives for a model river and model lake are 3 and 35 days, respectively. A BCF of less than 10 measured in fish, suggests bioconcentration in aquatic organisms is low. Hydrolysis and photolysis in sunlit surface waters is not expected to be an important environmental fate process for methanol since this compound lacks functional groups that hydrolyse or absorb light under environmentally relevant conditions. Methanol has been shown to undergo rapid biodegradation in a variety of screening studies using sewage seed and activated sludge inoculum, which suggests that biodegradation will occur in aquatic environments.
ATMOSPHERIC FATE: According to a model of gas/particle partitioning of semivolatile organic compounds in the atmosphere and vapour pressure, methanol is expected to exist solely as a vapor in the ambient atmosphere. Vapour-phase methanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals(SRC); the half-life for this reaction in air is estimated to be 17 days, calculated from its rate constant of 9.4x10-13 cu cm/molecule-sec at 25 deg C
Ecotoxicity:
Fish LC50 (96 h) fathead minnow (Pimephales promelus) 29000 mg/l; rainbow trout (Oncorhyncus mykiss) 19000 mg/l; bluegill (Lepomis macrochirus) 15400 mg/l

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Fish LC50 (7 d): guppy 10860 mg/l (14 d): 11.5 mg/l (semistatic)
Daphnia pulex LC50 (18 h): 19500 mg/l
Brine shrimp (Artemia salina) LC50 24 h): 1101.46-1578.84 mg/l (static)
Brown shrimp (Crangon crangon) LC50 (96 h): 1340 mg/l (semistatic)
Mussel (Mytilus edulis) LC50 (96 h): 15900 mg/l
Marine bacterium (Photobacterium posphoreum) LC50 (4 h): 7690 mg/l
Protozoa (Tetrahymena pyriformis) LC50 (48 h) 18756 mg/l.
■ DO NOT discharge into sewer or waterways.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Prism Range Cyanoacrylate Adhesives #496-108, #514- 622		No data		
methoxyethyl cyanoacrylate		No data		
methanol	LOW	No data	LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

■ Recycle wherever possible.
Consult manufacturer for recycling options.
Consult State Land Waste Management Authority for disposal.
Bury or incinerate residue at an approved site.
Incinerate residue at an approved site.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.
HAZCHEM: None (ADG6)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS
Regulations for ingredients

methoxyethyl cyanoacrylate (CAS: 27816-23-5) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)"

continued...

methanol (CAS: 67-56-1) is found on the following regulatory lists;
"Australia - New South Wales Hazardous Substances Prohibited for Specific Uses","Australia Exposure Standards","Australia Hazardous Substances","Australia High Volume Industrial Chemical List (HVICL)","Australia Inventory of Chemical Substances (AICS)","Australia National Pollutant Inventory","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6","GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances","International Council of Chemical Associations (ICCA) - High Production Volume List","OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Prism Range Cyanoacrylate Adhesives #496-108, #514-622 (CW: 4522-24)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
methoxyethyl cyanoacrylate	27816- 23-5	Xn; R22

REPRODUCTIVE HEALTH GUIDELINES
■ Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
methanol	262 mg/m3	NA	NA	NA	Yes

■ These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.
CR = Cancer Risk/10000; UF = Uncertainty factor:
TLV believed to be adequate to protect reproductive health:
LOD: Limit of detection
Toxic endpoints have also been identified as:
D = Developmental; R = Reproductive; TC = Transplacental carcinogen
Jankovic J., Drake F.: A Screening Method for Occupational Reproductive American Industrial Hygiene Association Journal 57: 641-649 (1996).

■ 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.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)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.

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This is the end of the MSDS.