

# TensorGrip TC49 500ml Aerosol Spray Adhesive **QUIN GLOBAL ASIA PACIFIC**

Version No: 1.1

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

#### Chemwatch Hazard Alert Code: 4

Issue Date: 06/07/2022 Print Date: 06/07/2022 S.GHS.AUS.EN

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

Product Identifier				
Product name	TensorGrip TC49 500ml Aerosol Spray Adhesive			
Synonyms	Not Available			
Proper shipping name	AEROSOLS (contains dimethyl ether)			
Other means of identification	Not Available			

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

Relevant identified uses Adhesives

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

• • • • • • • • • • • • • • • • • • • •					
Registered company name	QUIN GLOBAL ASIA PACIFIC				
Address	63 Hincksman Street Queanbeyan, NSW 2620 Australia				
Telephone	+61 2 6175 0574				
Fax	Not Available				
Website	www.quinglobal.com				
Email	sales@quinglobal.com.au				

# Emergency telephone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE			
Emergency telephone numbers	+61 1800 951 288			
Other emergency telephone numbers	+61 3 9573 3188			

Once connected and if the message is not in your prefered language then please dial 01

# **SECTION 2 Hazards identification**

#### Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Skin Corrosion/Irritation Category 2, Aspiration Hazard Category 1, Aerosols Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

# Label elements

Hazard pictogram(s)









Signal word

Danger

# Hazard statement(s)

· · · · · · · · · · · · · · · · · · ·				
H319	Causes serious eye irritation.			
H336	May cause drowsiness or dizziness.			
H411	Toxic to aquatic life with long lasting effects.			

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AUH044	Risk of explosion if heated under confinement.				
H315	Causes skin irritation.				
H304	May be fatal if swallowed and enters airways.				
H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.				

# Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.					
P211	o not spray on an open flame or other ignition source.					
P251	o not pierce or burn, even after use.					
P271	only outdoors or in a well-ventilated area.					
P261	void breathing gas					
P273	Avoid release to the environment.					
P280	Wear protective gloves, protective clothing, eye protection and face protection.					
P264	Wash all exposed external body areas thoroughly after handling.					

#### Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.						
P331	Do NOT induce vomiting.						
P305+P351+P338	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.						
P337+P313	e irritation persists: Get medical advice/attention.						
P391	ollect spillage.						
P302+P352	IF ON SKIN: Wash with plenty of water and soap.						
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.						
P332+P313	If skin irritation occurs: Get medical advice/attention.						
P362+P364	Take off contaminated clothing and wash it before reuse.						

# Precautionary statement(s) Storage

P405	Store locked up.			
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.			
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.

Not Applicable

# **SECTION 3 Composition / information on ingredients**

# Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight] Name				
115-10-6	40-60	dimethyl ether			
67-64-1	10-20	acetone			
110-82-7	20-40	cyclohexane			
Legend:	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

Description of first aid measur	es
Eye Contact	If aerosols come in contact with the eyes:  If aerosols come in contact with the eyes:  Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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.  Transport to hospital or doctor without delay.  Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If solids or aerosol mists are deposited upon the skin:  Flush skin and hair with running water (and soap if available).  Remove any adhering solids with industrial skin cleansing cream.  DO NOT use solvents.  Seek medical attention in the event of irritation.

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# Inhalation

If aerosols, fumes or combustion products are inhaled:

- Remove to fresh air.
- 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.
- If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- ► Transport to hospital, or doctor.

# Ingestion

- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.
- 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.
- Seek medical advice
- Avoid giving milk or oils.
- Avoid giving alcohol.

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

Treat symptomatically.

for lower alkyl ethers:

#### BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min
- A low-stimulus environment must be maintained.
- Monitor and treat, where necessary, for shock.
- Anticipate and treat, where necessary, for seizures
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

# ADVANCED TREATMENT

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.

- Positive-pressure ventilation using a bag-valve mask might be of use
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications
- Drug therapy should be considered for pulmonary oedema.
- Hypotension without signs of hypovolaemia may require vasopressors.
- Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation

#### EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Ethers may produce anion gap acidosis. Hyperventilation and bicarbonate therapy might be indicated.
- Haemodialysis might be considered in patients with impaired renal function.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

• Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.

- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

# **SECTION 5 Firefighting measures**

### **Extinguishing media**

SMALL FIRE:

Water spray, dry chemical or CO2

LARGE FIRE:

Water spray or fog.

# 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

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Fire/Explosion Hazard

carbon dioxide (CO2)

other pyrolysis products typical of burning organic material.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

BEWARE: Empty solvent, paint, lacquer and flammable liquid drums present a severe explosion hazard if cut by flame torch or welded. Even when thoroughly cleaned or reconditioned the drum seams may retain sufficient solvent to generate an explosive atmosphere in the drum. WARNING: Aerosol containers may present pressure related hazards.

**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** 

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.
- Wipe up.
- If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.

**Major Spills** 

- ▶ Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive
- Wear breathing apparatus plus protective gloves.
- ▶ Prevent, by any means available, spillage from entering drains or water courses
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Absorb or cover spill with sand, earth, inert materials or vermiculite.
- If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.
- Collect residues and seal in labelled drums for disposal

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

#### SECTION 7 Handling and storage

#### Precautions for safe handling

The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

- 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.
- DO NOT enter confined spaces until atmosphere has been checked
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- DO NOT incinerate or puncture aerosol cans
- DO NOT spray directly on humans, exposed food or food utensils. Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other information

Safe handling

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

#### For materials with a viscosity of at least 2680 cSt. (23 deg. C)

package, the can must have a screwed enclosure

#### Suitable container

- For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
- Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used.

For low viscosity materials (i): Drums and jerry cans must be of the non-removable head type. (ii): Where a can is to be used as an inner

- Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages
- In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any

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spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

- Aerosol dispenser.
- Check that containers are clearly labelled.

#### Dimethyl ether:

- ▶ is a peroxidisable gas
- may be heat and shock sensitive
- ▶ is able to form unstable peroxides on prolonged exposure to air
- reacts violently with oxidisers, aluminium hydride, lithium aluminium hydride
- ▶ is incompatible with strong acids, metal salts

#### Cyclohexane

- reacts violently with strong oxidisers, nitrogen tetraoxide
- ▶ may generate electrostatic charges, due to low conductivity, following flow or agitation

#### Storage incompatibility

# Ethers · may react violently with strong oxidising agents and acids.

- can act as bases. they form salts with strong acids and addition complexes with Lewis acids; the complex between diethyl ether and boron trifluoride is an example.
- · are generally stable to water under neutral conditions and ambient temperatures.
- · are hydrolysed by heating in the presence of halogen acids, particularly hydrogen iodide
- · are relatively inert In other reactions, which typically involve the breaking of the carbon-oxygen bond
- ▶ The tendency of many ethers to form explosive peroxides is well documented.
- Fig. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe.
- When solvents have been freed from peroxides (by percolation through a column of activated alumina for example), the absorbed peroxides must promptly be desorbed by treatment with the polar solvents methanol or water, which should be discarded safely.

#### 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	dimethyl ether	Dimethyl ether	400 ppm / 760 mg/m3	950 mg/m3 / 500 ppm	Not Available	Not Available
Australia Exposure Standards	acetone	Acetone	500 ppm / 1185 mg/m3	2375 mg/m3 / 1000 ppm	Not Available	Not Available
Australia Exposure Standards	cyclohexane	Cyclohexane	100 ppm / 350 mg/m3	1050 mg/m3 / 300 ppm	Not Available	Not Available

#### **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
dimethyl ether	3,000 ppm	3800* ppm	7200* ppm
acetone	Not Available	Not Available	Not Available
cyclohexane	300 ppm	1700* ppm	10000** ppm

Ingredient	Original IDLH	Revised IDLH
dimethyl ether	Not Available	Not Available
acetone	2,500 ppm	Not Available
cyclohexane	1,300 ppm	Not Available

#### **Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA 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.

# Appropriate engineering controls

Type of Contaminant:	Speed:
aerosols, (released at low velocity into zone of active generation)	0.5-1 m/s
direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 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

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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.

#### Personal protection











# Eye and face protection

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. This should include a review of lens absorption and adsorbion for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

#### Skin protection

See Hand protection below

- ▶ No special equipment needed when handling small quantities.
- ► OTHERWISE:
- For potentially moderate exposures:
- ▶ Wear general protective gloves, eg. light weight rubber gloves.
- ► For potentially heavy exposures:
  - ▶ Wear chemical protective gloves, eg. PVC. and safety footwear.

NOTE: Insulated gloves should be loose fitting so that may be removed quickly if liquid is spilled upon them. Insulated gloves are not made to permit hands to be placed in the liquid; they provide only short-term protection from accidental contact with the liquid.

#### **Body protection**

Hands/feet protection

See Other protection below

No special equipment needed when handling small quantities.

#### OTHERWISE: Overalls.

- Other protection
- Skin cleansing cream.
- Eyewash unit.
- Do not spray on hot surfaces.

### 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 computergenerated selection:

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Material	СРІ
BUTYL	С
BUTYL/NEOPRENE	С
CPE	С
HYPALON	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	С
PVA C	
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С
VITON	С
VITON/NEOPRENE	С

<sup>\*</sup> 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

# Respiratory protection

Type AX 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	AX-AUS / Class 1	-	AX-PAPR-AUS / Class 1
up to 50 x ES	Air-line*	-	-
up to 100 x ES	-	AX-3	-
100+ x ES	-	Air-line**	-

- Continuous-flow; \*\* Continuous-flow or positive pressure demand 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
- Generally not applicable.

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals. Selection of the Class and Type of respirator will depend upon the level of breathing

zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important. Version No: 1.1 Page **7** of **13** Issue Date: 06/07/2022 Print Date: 06/07/2022

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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.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	AX-AUS / Class 1	-
up to 50	1000	-	AX-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	AX-2
up to 100	10000	-	AX-3
100+		-	Airline**

<sup>\*\* -</sup> Continuous-flow or positive pressure demand.

A(All classes) = Organic vapours, B AUS or B1 = Acid gases, 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 deg C)

# **SECTION 9 Physical and chemical properties**

Information	an bacia	nhyciaal	and chemical	nronortico

information on basic physical	and chemical properties		
Appearance	Not Available		
Physical state	Liquified Gas	Relative density (Water = 1)	0.709
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	350
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	-141.5	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	-24.8	Molecular weight (g/mol)	Not Available
Flash point (°C)	-41.1	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	3.4	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	18.2	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	434	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (Not Available%)	Not Available
Vapour density (Air = 1)	1.6	VOC g/L	594.14

# **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	Elevated temperatures.     Presence of open flame.     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**

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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 of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.  Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.  Following inhalation, ethers cause lethargy and stupor. Inhaling lower alkyl ethers results in headache, dizziness, weakness, blurred vision, seizures and possible coma.  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.  The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.  WARNING:Intentional misuse by concentrating/inhaling contents may be lethal.  Rabbits survived 8 hour exposures to cyclohexane at 18500 ppm but 26600 ppm was lethal after 1 hour exposure. A concentration of 12600 ppm produced severe weakness, unconsciousness, increased breathing and convulsions while 3330 ppm failed to elicit an effect. 300 ppm is reported to be irritating to human eyes and mucous membranes.  Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)  Ingestion of alkyl ethers may produce stupor, blurred vision, headache, dizziness and irritation of the nose and throat. Respiratory distress and asphyxia may result.  The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.  Not normally a hazard due to physical form of product.  Considered an unlikely route of entry in commercial/industrial environments  Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	This material can cause inflammation of the skin on contact in some persons.  The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.  Spray mist may produce discomfort Alkyl ethers may defat and dehydrate the skin producing dermatoses. Absorption may produce headache, dizziness, and central nervous system depression.  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.
Еуе	This material can cause eye irritation and damage in some persons.  Eye contact with alkyl ethers (vapour or liquid) may produce irritation, redness and tears.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.  Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.  Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Chronic exposure to alkyl ethers may result in loss of appetite, excessive thirst, fatigue, and weight loss.  Inhalation may result in chrome ulcers or sores in the mucous membranes of the nose, and lung damage.

TensorGrip TC49 500ml	TOXICITY	IRRITATION
Aerosol Spray Adhesive	Not Available	Not Available
	TOXICITY	IRRITATION
dimethyl ether	Inhalation(Rat) LC50; >20000 ppm4h <sup>[1]</sup>	Not Available
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 20000 mg/kg <sup>[2]</sup>	Eye (human): 500 ppm - irritant
	Inhalation(Mouse) LC50; 44 mg/L4h <sup>[2]</sup>	Eye (rabbit): 20mg/24hr -moderate
	Oral (Rat) LD50; 5800 mg/kg <sup>[2]</sup>	Eye (rabbit): 3.95 mg - SEVERE
acetone		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit): 500 mg/24hr - mild
		Skin (rabbit):395mg (open) - mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
cyclohexane	Inhalation(Rat) LC50; >5540 ppm4h <sup>[1]</sup>	Skin(rabbit): 1548 mg/48hr - mild
	Oral (Rat) LD50; 12705 mg/kg <sup>[2]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise

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specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

#### TensorGrip TC49 500ml Aerosol Spray Adhesive

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

#### ACETONE

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.

#### For acetone:

The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause macrocytic anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/cubic metre has not caused neurobehavioural deficits.

#### CYCLOHEXANE

Bacteria mutagen

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

Legend:

X - Data either not available or does not fill the criteria for classification

– Data available to make classification

#### **SECTION 12 Ecological information**

#### Toxicity

T 0.1. T040 F00I	Endpoint	Test Duration (hr)	Species		Value	Source
TensorGrip TC49 500ml Aerosol Spray Adhesive	Not Available	Not Available Not Available		Not Available	Not Availabl	
	Endpoint	Test Duration (hr)	Species		Value	Sourc
	NOEC(ECx)	48h	Crustacea		>4000mg/l	1
dimethyl ether	EC50	48h	Crustacea		>4400mg/L	2
	EC50	96h	Algae or other ac	uatic plants	154.917mg/l	2
	LC50	96h	Fish		1783.04mg/l	2
	Endpoint	Test Duration (hr)	Species	Valu	e	Source
	NOEC(ECx)	12h	Fish	0.00	1mg/L	4
acetone	EC50	48h	Crustacea	6098	3.4mg/L	5
	EC50	96h	Algae or other aquat	ic plants 9.87	3-27.684mg/l	4
	LC50	96h	Fish	3744	1.6-5000.7mg/L	4
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other a	quatic plants	3.428mg/l	2
	EC50(ECx)	48h	Crustacea		0.9mg/l	2
cyclohexane	BCF	1344h	Fish		31-102	7
	EC50	48h	Crustacea		0.9mg/l	2
	EC50	96h	Algae or other a	quatic plants	2.17mg/l	2
	LC50	96h	Fish		4.53mg/l	2

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Most ethers are very resistant to hydrolysis, and the rate of cleavage of the carbon-oxygen bond by abiotic processes is expected to be insignificant.

Direct photolysis will not be an important removal process since aliphatic ethers do not absorb light at wavelengths >290 nm

For Ketones: Ketones, unless they are alpha, beta--unsaturated ketones, can be considered as narcosis or baseline toxicity compounds.

Aquatic Fate: Hydrolysis of ketones in water is thermodynamically favourable only for low molecular weight ketones. Reactions with water are reversible with no permanent change in the structure of the ketone substrate. Ketones are stable to water under ambient environmental conditions. When pH levels are greater than 10, condensation reactions can occur which produce higher molecular weight products. Under ambient conditions of temperature, pH, and low concentration, these condensation reactions are unfavourable. Based on its reactions in air, it seems likely that ketones undergo photolysis in water.

Terrestrial Fate: It is probable that ketones will be biodegraded by micro-organisms in soil and water.

Ecotoxicity: Ketones are unlikely to bioconcentrate or biomagnify.

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For Cyclohexanes: log Kow: 3.44; Water Solubility: 54.8 mg/L (25 C); Vapor Pressure: 97.6 mm Hg (25 C); Henry s Law Constant: 0.193 atm-m3/mole; Koc: 480; Half-life (hr) air: 6-52; Half-life (hr) H2O surface water: 2; ThOD: 3.42. BCF: 242.

Atmospheric Fate: In the atmosphere, cyclohexane will degrade by reaction with photochemically produced hydroxyl radicals (half-life 52 hours). Photodegradation occurs in about 6 hours in the presence of nitrogen oxides (photochemical smog conditions). The reactivity of cyclohexane is relatively low. Cytohexanes should not be subject to direct photolysis. Aquatic Fate: Volatilization from water should be the most important fate process in aquatic systems and is expected to be rapid with the rate being controlled by diffusion through the liquid phase.

Terrestrial Fate: Cyclohexane will volatilize and is expected to leach into the ground. Cyclohexane is resistant to biodegradation but may slowly biodegrade in the presence of other hydrocarbons that are themselves biodegraded. Moderate soil absorbability is expected. Small interactions with soil adsorbents and absorptivity was only casually related to the organic carbon content of sediment.

Biodegredation: Cyclohexanes are highly resistant to biodegradation and do not support growth of the degrading organism themselves but are metabolized during the course of the microorganisms growth on another, usually similar substrate.

Ecotoxicity: Some bioconcentration is expected. Significant risk of bioaccumulation is likely. Cyclohexanes are slightly toxic to fathead minnow, bluegill sunfish and guppy and not acutely toxic to Daphnia magna water flea, algae or Photobacterium phosphoreum bacteria.

DO NOT discharge into sewer or waterways.

For Acetone: log Kow: -0.24; Half-life (hr) air: 312-1896; Half-life (hr) H2O surface water: 20; Henry's atm m3 /mol: 3.67E-05 BOD 5: 0.31-1.76.46-55%

COD: 1.12-2.07 ThOD: 2.2BCF: 0.69

Environmental Fate: The relatively long half-life allows acetone to be transported long distances from its emission source.

Atmospheric Fate: Acetone preferentially locates in the air compartment when released to the environment. In air, acetone is lost by photolysis and reaction with photochemically produced hydroxyl radicals; the estimated half-life of these combined processes is about 22 days. Air Quality Standards: none available.

Terrestrial Fate: Very little acetone is expected to reside in soil, biota, or suspended solids and has low propensity for soil absorption and a high preference for moving through the soil and into the ground water. Acetone released to soil volatilizes although some may leach into the ground where it rapidly biodegrades. Soil Guidelines: none available. Aquatic Fate: A substantial amount of acetone can also be found in water. Acetone is highly soluble and slightly persistent in water, with a half-life of about 20 hours Drinking Water Standard: none available.

Ecotoxicity: Acetone does not concentrate in the food chain, is minimally toxic to aquatic life and is considered to be readily biodegradable. Testing shows that acetone exhibits a low order of toxicity for brook trout, fathead minnow, Japanese quail, ring-neck pheasant and water fleas. Low toxicity for aquatic invertebrates. For aquatic plants, NOEC: 5400-7500 mg/L. Acetone vapours were shown to be relatively toxic to flour beetle and flour moths and their eggs. The direct application of acetone liquid to the body of the insects or surface of the eggs did not, however, cause any mortality. The ability of acetone to inhibit cell multiplication has been examined in a wide variety of microorganisms. Mild to moderate toxicity occurred in bacteria exposed to acetone for 6-4 days however, overall data indicates a low degree of toxicity for acetone. The only exception to these findings was the results obtained with the flaqellated protozoa (Entosiphon sulcatum).

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
dimethyl ether	LOW	LOW
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
cyclohexane	HIGH (Half-life = 360 days)	LOW (Half-life = 3.63 days)

#### **Bioaccumulative potential**

Ingredient	Bioaccumulation
dimethyl ether	LOW (LogKOW = 0.1)
acetone	LOW (BCF = 0.69)
cyclohexane	LOW (BCF = 242)

## Mobility in soil

Ingredient	Mobility
dimethyl ether	HIGH (KOC = 1.292)
acetone	HIGH (KOC = 1.981)
cyclohexane	LOW (KOC = 165.5)

#### **SECTION 13 Disposal considerations**

#### Waste treatment methods

Product / Packaging disposal

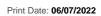
- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- Consult State Land Waste Management Authority for disposal.
  - Discharge contents of damaged aerosol cans at an approved site.
- Allow small quantities to evaporate.
- DO NOT incinerate or puncture aerosol cans.
- ▶ Bury residues and emptied aerosol cans at an approved site.

## **SECTION 14 Transport information**

### Labels Required

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# Marine Pollutant



HAZCHEM

Not Applicable

# Land transport (ADG)

UN number	1950		
UN proper shipping name	AEROSOLS (contains dimethyl ether)		
Transport hazard class(es)	Class 2.1 Subrisk Not Applicable		
Packing group	Not Applicable		
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions         63 190 277 327 344 381           Limited quantity         1000ml		

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

	7			
UN number	1950			
UN proper shipping name	Aerosols, flammable (co	ntains dimethyl ether)		
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk ERG Code	2.1  Not Applicable  10L		
Packing group	Not Applicable			
Environmental hazard	Environmentally hazardous			
	Special provisions		A145 A167 A802	
	Cargo Only Packing In	structions	203	
	Cargo Only Maximum	Qty / Pack	150 kg	
Special precautions for user	Passenger and Cargo	Packing Instructions	203	
	Passenger and Cargo	Maximum Qty / Pack	75 kg	
	Passenger and Cargo Limited Quantity Packing Instructions		Y203	
	Passenger and Cargo	Limited Maximum Qty / Pack	30 kg G	-

# Sea transport (IMDG-Code / GGVSee)

UN number	1950	1950		
UN proper shipping name	AEROSOLS (contain	AEROSOLS (contains dimethyl ether)		
Transport hazard class(es)				
Packing group	Not Applicable			
Environmental hazard	Marine Pollutant			
Special precautions for user	EMS Number Special provisions Limited Quantities			

# 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
dimethyl ether	Not Available
acetone	Not Available
cyclohexane	Not Available

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Product name Ship Type dimethyl ether Not Available acetone Not Available cyclohexane Not Available

# **SECTION 15 Regulatory information**

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

#### dimethyl ether is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

Schedule 5

#### acetone is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

cyclohexane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

Australian Inventory of Industrial Chemicals (AIIC)

Australian Inventory of Industrial Chemicals (AIIC)

#### **National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (dimethyl ether; acetone; cyclohexane)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory 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	06/07/2022
Initial Date	16/05/2022

#### 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

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

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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

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