

RS Components

Chemwatch: **5358-72** Version No: **4.1** Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements Chemwatch Hazard Alert Code: 3

Issue Date: 23/12/2022 Print Date: 09/10/2023 L.GHS.AUS.EN.E

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

Product Identifier

Product name	Electronic Cleaning Solvent #327-1542 (AUS)	
Chemical Name	Not Applicable	
Synonyms	Product Code: 327-1542	
Proper shipping name	AEROSOLS	
Chemical formula	Not Applicable	
Other means of identification	Not Available	

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

Relevant identified uses	Cleaning agent. Application is by spray atomisation from a hand held aerosol pack
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	RS Components
Address	25 Pavesi Street Smithfield NSW 2164 Australia
Telephone	+1 300 656 636
Fax	+1 300 656 696
Website	www.au.rs-online.com
Email	Not Available

Emergency telephone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	+61 1800 951 288
Other emergency telephone numbers	+61 3 9573 3188

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SECTION 2 Hazards identification

Classification of the substance or mixture

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

Chemwatch Hazard Ratings

		Min	Max	
Flammability	3			
Toxicity	1			0 = Minimum
Body Contact	2			1 = Low
Reactivity	1			2 = Moderate
Chronic	0			3 = High 4 = Extreme

Poisons Schedule	Not Applicable
Classification ^[1]	Aerosols Category 1, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3
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	Dangar
Signal word	Danger

Hazard statement(s)

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AUH044	Risk of explosion if heated under confinement.	
H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.	
H319	Causes serious eye irritation.	
H336	May cause drowsiness or dizziness.	

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P211	Do not spray on an open flame or other ignition source.	
P251	Do not pierce or burn, even after use.	
P271	Use only outdoors or in a well-ventilated area.	
P261	Avoid breathing mist/vapours/spray.	
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

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	

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

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

P501

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
67-63-0	>60	isopropanol
124-38-9	1-5	carbon dioxide
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

Eye Contact	 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.
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	Not considered a normal route of entry.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- For acute or short term repeated exposures to isopropanol:
- Rapid onset respiratory depression and hypotension indicates serious ingestions that require careful cardiac and respiratory monitoring together with immediate intravenous access.
- Rapid absorption precludes the usefulness of emesis or lavage 2 hours post-ingestion. Activated charcoal and cathartics are not clinically useful. Ipecac is most useful when given 30 mins. post-ingestion.
- There are no antidotes.
- Management is supportive. Treat hypotension with fluids followed by vasopressors.
- Watch closely, within the first few hours for respiratory depression; follow arterial blood gases and tidal volumes.
- Ice water lavage and serial haemoglobin levels are indicated for those patients with evidence of gastrointestinal bleeding.

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	 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 course. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers subspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	 Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat or flame. Vapour forms an explosive mixture with air. Severe explosion hazard, in the form of vapour, when exposed to flame or spark. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition with violent container rupture. Aerosol cans may explode on exposure to naked flames. Rupturing containers may rocket and scatter burning materials. Hazards may not be restricted to pressure effects. May emit acrid, poisonous or corrosive fumes. On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO2) other pyrolysis products typical of burning organic material.
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	
Safe handling	 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	 Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can Store in original containers in approved flammable liquid storage area. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. No smoking, naked lights, heat or ignition sources. Keep containers securely sealed. Contents under pressure. Store away from incompatible materials. Store in a cool, dry, well ventilated area. Avoid storage at temperatures higher than 40 deg C. Store in an upright position. Protect containers against physical damage. Check regularly for spills and leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	 DO NOT use aluminium or galvanised containers Aerosol dispenser. Check that containers are clearly labelled.
Storage incompatibility	 Isopropanol (syn: isopropyl alcohol, IPA): forms ketones and unstable peroxides on contact with air or oxygen; the presence of ketones especially methyl ethyl ketone (MEK, 2-butanone) will accelerate the rate of peroxidation reacts violently with strong oxidisers, powdered aluminium (exothermic), crotonaldehyde, diethyl aluminium bromide (ignition), dioxygenyl tetrafluoroborate (ignition/ ambient temperature), chromium trioxide (ignition), potassium-tert-butoxide (ignition), nitroform (possible explosion), oleum (pressure increased in closed container), cobalt chloride, aluminium triisopropoxide, hydrogen plus palladium dust (ignition), oxygen gas, phosgene, phosgene plus iron salts (possible explosion), sodium dichromate plus sulfuric acid (exothermic/ incandescence), triisobutyl aluminium reacts with phosphorus trichloride forming hydrogen chloride gas reacts, possibly violently, with alkaline earth and alkali metals, strong acuts, strong caustics, acid anhydrides, halogens, aliphatic amines, aluminium isopropoxide, isocyanates, acetaldehyde, barium perchlorate (forms highly explosive perchloric ester compound), benzoyl peroxide, chromic acid, dialkylzincs, dichlorine oxide, ethylene oxide (possible explosion), hexamethylene diisocyanate (possible explosion), hydrogen percoxide (forms explosive compound), hypochlorous acid, isopropyl chlorocarbonate, lithium aluminium hydride, lithium tetrahydroaluminate, nitric acid, nitrogen dioxide, nitrogen tetraoxide (possible explosion), pentafluoroguanidine, perchloric acid (especially hot), permonosulfuric acid, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium, trinitromethane attacks some plastics, rubber and coatings reacts with metallic aluminium at high temperature may generate electrostatic charges Alcohols are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents. react with strong acids, stron

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)	
INGREDIENT DATA	

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes

Source	Ingredient	Material name		TWA		STEL		Peak	Notes
Australia Exposure Standards	isopropanol	Isopropyl alcohol		400 ppm / 983 mg/m	13	1230 mg/m3 / 500 ppm		Not Available	Not Available
Australia Exposure Standards	carbon dioxide	Carbon dioxide in coal mines		12500 ppm / 22500 mg/m3		54000 mg/m3 / 30000 ppm		Not Available	Not Available
Australia Exposure Standards	carbon dioxide	Carbon dioxide		5000 ppm / 9000 mg	g/m3	54000 mg/m3 / 30000 ppm		Not Available	Not Available
Emergency Limits									
Ingredient	TEEL-1		TEEL-	2			TEEL-3		
isopropanol	400 ppm 2000* p		ppm			12000** ppm			
Ingredient	Original IDLH				Revis	ed IDLH			
isopropanol	2,000 ppm	2,000 ppm			Not Av	vailable			
carbon dioxide	40,000 ppm				Not Av	vailable			

MATERIAL DATA

Exposure controls

	Engineering controls are used to remove a hazard or place a can be highly effective in protecting workers and will typically The basic types of engineering controls are: Process controls which involve changing the way a job activi Enclosure and/or isolation of emission source which keeps a strategically "adds" and "removes" air in the work environment design of a ventilation system must match the particular proc Employers may need to use multiple types of controls to prev General exhaust is adequate under normal conditions. If risk obtain adequate protection. Provide adequate ventilation in warehouse or closed storage Air contaminants generated in the workplace possess varying circulating air required to effectively remove the contaminant	 v be independent of worker interactions to provid ty or process is done to reduce the risk. selected hazard "physically" away from the wor nt. Ventilation can remove or dilute an air contar sess and chemical or contaminant in use. vent employee overexposure. of overexposure exists, wear SAA approved rest e areas. g "escape" velocities which, in turn, determine th 	e this high level of protection. ker and ventilation that ninant if designed properly. The spirator. Correct fit is essential to			
	Type of Contaminant:		Speed:			
Appropriate orginaering	aerosols, (released at low velocity into zone of active gene	ration)	0.5-1 m/s			
Appropriate engineering controls	direct spray, spray painting in shallow booths, gas discharg motion)	ge (active generation into zone of rapid air	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				
	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.					
Individual protection measures, such as personal protective equipment						
Eye and face protection	No special equipment for minor exposure i.e. when handling small quantities. OTHERWISE: For potentially moderate or heavy exposures: • Safety glasses with side shields. • NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them.					
		s may absorb irritants and ALL lenses concentra	ate them.			
Skin protection		s may absorb irritants and ALL lenses concentration	ate them.			
Skin protection Hands/feet protection	NOTE: Contact lenses pose a special hazard; soft lense	loves.	ate them.			
	 NOTE: Contact lenses pose a special hazard; soft lense: See Hand protection below No special equipment needed when handling small quart OTHERWISE: For potentially moderate exposures: Wear general protective gloves, eg. light weight rubber g For potentially heavy exposures: 	loves.	ate them.			

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

Electronic Cleaning Solvent #327-1542 (AUS)

Material	CPI
NEOPRENE	A
NITRILE	A
NITRILE+PVC	A
PE/EVAL/PE	A
PVC	В
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С

* 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

 $\ensuremath{\text{NOTE}}$ As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Ansell Glove Selection

Glove — In order of recommendation
AlphaTec® 58-530B
AlphaTec® 58-530W
AlphaTec® 79-700
AlphaTec® Solvex® 37-675
MICROFLEX® 63-864
MICROFLEX® Diamond Grip® MF-300
TouchNTuff® 83-500
AlphaTec® Solvex® 37-185
AlphaTec® 38-612
AlphaTec® 58-008

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colourless highly flammable liquid with solvent odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	0.787 @20C
Odour	Not Available	Partition coefficient n- octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	82	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	12	Taste	Not Available
Evaporation rate	1.5 Ether = 1	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

Type A 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	Air-line*	A-2	A-PAPR-2 ^
up to 20 x ES	-	A-3	-
20+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand ^ - 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)

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.

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

Information on toxicological effects

 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. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Exposure to aliphatic alcohols with more than 3 carbons may produce central nervous system effects such as headache, dizziness, drowsiness, muscle weakness, delirium, CNS depression, coma, seizure, and neurobehavioural changes. Symptoms are more acute with higher alcohols. Respiratory tract involvement may produce irritation of the mucosa, respiratory insufficiency, respiratory depression secondary to CNS depression, pulmonary oedema, chemical pneumonitis and bronchitis. Cardiovascular involvement may result in arrhythmias and hypotension. Gastrointestinal effects may include nausea and vomiting. Kidney and liver damage may result following massive exposures. The alcohols are potential irritants being, generally, stronger irritants than similar organic structures that lack functional groups (e.g. alkanes) but are much less irritating than the corresponding amines, aldehydes or ketones. Alcohols and glycols (diols) rarely represent serious hazards
Accidental ingestion of the material may be damaging to the health of the individual. Effects on the nervous system characterise over-exposure to higher aliphatic alcohols. These include headache, muscle weakness, giddiness, ataxia, (loss of muscle coordination), confusion, delirium and coma. Gastrointestinal effects may include nausea, vomiting and diarrhoea. In the absence of effective treatment, respiratory arrest is the most common cause of death in animals acutely poisoned by the higher alcohols. Aspiration of liquid alcohols produces an especially toxic response as they are able to penetrate deeply in the lung where they are absorbed and may produce pulmonary injury. Those possessing lower viscosity elicit a greater response. The result is a high blood level and prompt death at doses otherwise tolerated by ingestion without aspiration. In general the secondary alcohols are less toxic than the corresponding primary isomers. As a general observation, alcohols are more powerful central nervous system depressants than their aliphatic analogues. In sequence of decreasing depressant potential, tertiary alcohols with multiple substituent OH groups are more potent than secondary alcohols, which, in turn, are more potent than primary alcohols. The potential for overall systemic toxicity increases with molecular weight (up to C7), principally because the water solubility is diminished and lipophilicity is increased. Within the homologous series of aliphatic alcohols, narcotic potency may increase even faster than lethality Only scanty toxicity information is available about higher homologues of the aliphatic alcohols with 8 carbons are less toxic than those immediately preceding them in the series. 10 -Carbon n-decyl alcohol has low toxicity as do the solid fatty alcohols (e.g. lauyl, myristyl, cetyl and stearyl). However the rat aspiration test suggests that decyl and melted dodecyl (lauyl) alcohols are dangerous if they enter the trachea. In the rat even a small quantity (0.2 ml) of these behaves l
 Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. The material may produce mild skin irritation; limited evidence or practical experience suggests, that the material either: produces mild inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant, but mild, 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 (non allergic). 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. Spray mist may produce discomfort Most liquid alcohols appear to act as primary skin irritants in humans. Significant percutaneous absorption occurs in rabbits but not apparently in man. Open cuts, abraded or irritated skin should not be exposed to this material 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.
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. 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.

Chronic	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. There is some evidence to provide a presumption that human exposure to the material may result in impaired fertility on the basis of: some evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects. There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects. Long term, or repeated exposure of isopropanol may cause inco-ordination and tiredness. Repeated inhalation exposure to isopropanol may produce sleepiness, inco-ordination and liver degeneration. Animal data show developmental effects only at exposure levels that produce toxic effects in adult animals. Isopropanol does not cause genetic damage. There are inconclusive reports of human sensitisation from skin contacts with isopropanol. Chronic alcoholics are more tolerant of the whole- body effects of isopropanol. Animal testing showed the chronic exposure did not produce reproductive effects. NOTE: Commercial isopropanol does not contain "isopropyl oil", which caused an excess incidence of sinus and throat cancers in isoproanol production workers in the past. "Isopropyl oil" is no longer formed during production of isopropanol. WARNING: Aerosol containers may present pressure related hazards.		
Electronic Cleaning Solvent	ΤΟΧΙΟΙΤΥ	IRRITATION	
#327-1542 (AUS)	Not Available	Not Available	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
	Dermal (rabbit) LD50: 12800 mg/kg ^[2]	Eye (rabbit): 10 mg - moderate	
isopropanol	Inhalation(Mouse) LC50; 53 mg/L4h ^[2]	Eye (rabbit): 100 mg - SEVERE	
	Oral (Mouse) LD50; 3600 mg/kg ^[2]	Eye (rabbit): 100mg/24hr-moderate	
		Skin (rabbit): 500 mg - mild	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
carbon dioxide	Not Available	Not Available	
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		
	condition known as reactive airways dysfunction syndror compound. Main criteria for diagnosing RADS include th of persistent asthma-like symptoms within minutes to hoo include a reversible airflow pattern on lung function tests and the lack of minimal lymphocytic inflammation, withou disorder with rates related to the concentration of and du is a disorder that occurs as a result of exposure due to h reversible after exposure ceases. The disorder is charac For isopropanol (IPA): Acute toxicity: Isopropanol has a low order of acute tox irritating to the eyes, nose, and throat, and prolonged ex volunteers reported that exposure to 400 ppm isopropan Although isopropanol produced little irritation when teste dermal irritation and/or sensitization. The use of isoprop intoxication, probably the result of both dermal absorptio	years after exposure to the material ends. This may be due to a non-allergic ne (RADS) which can occur after exposure to high levels of highly irritating e absence of previous airways disease in a non-atopic individual, with sudden onset urs of a documented exposure to the irritant. Other criteria for diagnosis of RADS , moderate to severe bronchial hyperreactivity on methacholine challenge testing, it eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent irration of exposure to the irritating substance. On the other hand, industrial bronchitis igh concentrations of irritating substance (often particles) and is completely terized by difficulty breathing, cough and mucus production. icity. It is irritating to the eyes, but not to the skin. Very high vapor concentrations are posure may produce central nervous system depression and narcosis. Human ol vapors for 3 to 5 min. caused mild irritation of the eyes, nose and throat. d on the skin of human volunteers, there have been reports of isolated cases of anol as a sponge treatment for the control of fever has resulted in cases of n and inhalation. There have been a number of cases of poisoning reported due to g alcoholics or suicide victims. These ingestions typically result in a comatose	

the intentional ingestion of isopropanol, particularly among alcoholics or suicide victims. These ingestions typically result in a comatose condition. Pulmonary difficulty, nausea, vomiting, and headache accompanied by various degrees of central nervous system depression are typical. In the absence of shock, recovery usually occurred.

Repeat dose studies: The systemic (non-cancer) toxicity of repeated exposure to isopropanol has been evaluated in rats and mice by the inhalation and oral routes. The only adverse effects-in addition to clinical signs identified from these studies were to the kidney.

ISOPROPANOL

Reproductive toxicity: A recent two-generation reproductive study characterised the reproductive hazard for isopropanol associated with oral gavage exposure. This study found that the only reproductive parameter apparently affected by isopropanol exposure was a statistically significant decrease in male mating index of the F1 males. It is possible that the change in this reproductive parameter was treatment related and significant, although the mechanism of this effect could not be discerned from the results of the study. However, the lack of a significant effect of the female mating index in either generation, the absence of any adverse effect on litter size, and the lack of histopathological findings of the testes of the high-dose males suggest that the observed reduction in male mating index may not be biologically meaningful. **Developmental toxicity:** The developmental toxicity of isopropanol has been characterized in rat and rabbit developmental toxicity studies. These studies indicate that isopropanol is not a selective developmental hazard. Isopropanol produced developmental toxicity in rats, but not in rabbits. In the rat, the developmental toxicity occurred only at maternally toxic doses and consisted of decreased foetal body weights, but no teratogenicity

Genotoxicity: All genotoxicity assays reported for isopropanol have been negative

Carcinogenicity: rodent inhalation studies were conduct to evaluate isopropanol for cancer potential. The only tumor rate increase seen was for interstitial (Leydig) cell tumors in the male rats. Interstitial cell tumors of the testis is typically the most frequently observed spontaneous tumor in aged male Fischer 344 rats. These studies demonstrate that isopropanol does not exhibit carcinogenic potential relevant to humans. Furthermore, there was no evidence from this study to indicate the development of carcinomas of the testes in the male rat, nor has isopropanol been found to be genotoxic. Thus, the testicular tumors seen in the isopropanol exposed male rats are considered of no significance in terms of human cancer risk assessment

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	*	STOT - Single Exposure	*
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×
		Legend: 🔀 – Data either no	t available or does not fill the criteria for classification

Data available to make classification

SECTION 12 Ecological information

Electronic Cleaning Solvent #327-1542 (AUS)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
isopropanol	EC50	72h	Algae or other aquatic plants	>1000mg/l	1
	EC50	48h	Crustacea	7550mg/l	4
	EC50	96h	Algae or other aquatic plants	>1000mg/l	1
	LC50	96h	Fish	>1400mg/l	4
	EC50(ECx)	24h	Algae or other aquatic plants	0.011mg/L	4
oonkon dievide	Endpoint	Test Duration (hr)	Species	Value	Source
carbon dioxide	LC50	96h	Fish	35mg/l	1
Legend:	Ecotox databa		CHA Registered Substances - Ecotoxicological Inform C Aquatic Hazard Assessment Data 6. NITE (Japan) -		

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
carbon dioxide	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
isopropanol	LOW (LogKOW = 0.05)
carbon dioxide	LOW (LogKOW = 0.83)

Mobility in soil

Ingredient	Mobility
isopropanol	HIGH (KOC = 1.06)
carbon dioxide	HIGH (KOC = 1.498)

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

	2
Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG)

14.1. UN number or ID number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	Class Subsidiary Hazard	2.1 Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	63 190 277 327 344 381 1000ml

Air transport (ICAO-IATA / DGR)

14.1. UN number	1950			
14.2. UN proper shipping name	Aerosols, flammable			
14.3. Transport hazard	ICAO/IATA Class	2.1		
class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable		
ζ, γ	ERG Code	10L		
14.4. Packing group	Not Applicable			
14.5. Environmental hazard	Not Applicable			
	Special provisions		A145 A167 A802	
	Cargo Only Packing Instructions		203	
	Cargo Only Maximum Qty / Pack		150 kg	
14.6. 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)

14.1. UN number	1950		
14.2. UN proper shipping name	AEROSOLS		
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Ha	2.1 zard Not Applicable	
14.4. Packing group	Not Applicable		
14.5 Environmental hazard	Not Applicable		
14.6. Special precautions for user	EMS Number Special provisions Limited Quantities	F-D, S-U 63 190 277 327 344 381 959 1000 ml	

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

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

Product name	Group
isopropanol	Not Available
carbon dioxide	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Issue Date: 23/12/2022 Print Date: 09/10/2023

Electronic Cleaning Solvent #327-1542 (AUS)

Product name	Ship Type
isopropanol	Not Available
carbon dioxide	Not Available

SECTION 15 Regulatory information

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

isopropanol is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
Australian Inventory of Industrial Chemicals (AIIC)	Monographs - Not Classified as Carcinogenic

carbon dioxide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC) FEI Equine Prohibited Substances List - Controlled Medication FEI Equine Prohibited Substances List (EPSL)

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non- Industrial Use	Yes	
Canada - DSL	Yes	
Canada - NDSL	No (isopropanol; carbon dioxide)	
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	23/12/2022
Initial Date	03/07/2019

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
4.1	23/12/2022	Classification review due to GHS Revision change.

Other information

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

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

Definitions and abbreviations

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

AIIC: Australian Inventory of Industrial Chemicals DSL: Domestic Substances List NDSL: Non-Domestic Substances List IECSC: Inventory of Existing Chemical Substance in China EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances NLP: No-Longer Polymers ENCS: Existing and New Chemical Substances Inventory KECI: Korea Existing Chemicals Inventory NZIoC: New Zealand Inventory of Chemicals PICCS: Philippine Inventory of Chemicals and Chemical Substances TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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