

TensorGrip F40 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: **16/05/2022** Print Date: **16/05/2022** S.GHS.AUS.EN

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

Product Identifier					
Product name	TensorGrip F40 500ml Aerosol Spray Adhesive				
Synonyms	Not Available				
Proper shipping name	AEROSOLS (contains isopentane, acetone and 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

	<u> </u>
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, Aspiration Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3, 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.			
AUH066	epeated exposure may cause skin dryness and cracking.			
H336	May cause drowsiness or dizziness.			
AUH044	Risk of explosion if heated under confinement.			

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H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.
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	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 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	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

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		
78-78-4	15-25	isopentane		
67-64-1	1-5	acetone		
115-10-6	30-60	dimethyl ether		
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

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 occas

Eye Contact

Skin Contact

- nd 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.

In case of cold burns (frost-bite):

- ▶ Move casualty into warmth before thawing the affected part; if feet are affected carry if possible
- ▶ Bathe the affected area immediately in luke-warm water (not more than 35 deg C) for 10 to 15 minutes, immersing if possible and without rubbing
- DO NOT apply hot water or radiant heat.
- ▶ Apply a clean, dry, light dressing of "fluffed-up" dry gauze bandage
- ▶ If a limb is involved, raise and support this to reduce swelling
- ▶ If an adult is involved and where intense pain occurs provide pain killers such as paracetomol
- ► Transport to hospital, or doctor
- ▶ Subsequent blackening of the exposed tissue indicates potential of necrosis, which may require amputation.

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

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| Seek medical attention in the event of irritation.

| 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.

| Avoid giving milk or oils.
| Avoid giving alcohol.
| Not considered a normal route of entry.
| If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

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]

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

- F 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

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

FOR FIRES INVOLVING MANY GAS CYLINDERS:

To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s).

- Fire Fighting
- Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback.
 DO NOT extinguish the fire until the supply is shut off otherwise an explosive re-ignition may occur.
- If the fire is extinguished and the flow of gas continues, used increased ventilation to prevent build-up, of explosive atmosphere.
- ▶ Use non-sparking tools to close container valves.

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- ▶ Be CAUTIOUS of a Boiling Liquid Evaporating Vapour Explosion, BLEVE, if fire is impinging on surrounding containers.
- Direct 2500 litre/min (500 gpm) water stream onto containers above liquid level with the assistance remote monitors.
- 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 suspected 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.

GENERAL

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Consider evacuation
- Fight fire from a safe distance, with adequate cover.
- 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 cylinders suspected to be hot.
- Cool fire-exposed cylinders with water spray from a protected location.
- If safe to do so, remove containers from path of fire

FIRE FIGHTING PROCEDURES:

- ▶ The only safe way to extinguish a flammable gas fire is to stop the flow of gas.
- If the flow cannot be stopped, allow the entire contents of the cylinder to burn while cooling the cylinder and surroundings with water from a suitable distance
- Extinguishing the fire without stopping the gas flow may permit the formation of ignitable or explosive mixtures with air. These mixtures may propagate to a source of ignition.

SPECIAL HAZARDS

- Excessive pressures may develop in a gas cylinder exposed in a fire; this may result in explosion.
- Cylinders with pressure relief devices may release their contents as a result of fire and the released gas may constitute a further source of hazard for the fire-fighter.
- Cylinders without pressure-relief valves have no provision for controlled release and are therefore more likely to explode if exposed to fire.

FIRE FIGHTING REQUIREMENTS:

The need for proximity, entry and flash-over protection and special protective clothing should be determined for each incident, by a competent fire-fighting safety professional

Prevent by any means spillage from entering drains or water-courses.

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 monoxide (CO)

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.

Vented gas is more dense than air and may collect in pits, basements

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

► 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.

Minor Spills

- ▶ 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.

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- Clear area of all unprotected personnel and move upwind.
- Alert Emergency Authority and advise them of the location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body clothing with breathing apparatus.
- Prevent by any means available, spillage from entering drains and water-courses.
- Consider evacuation.
- Shut off all possible sources of ignition and increase ventilation.
- No smoking or naked lights within area.
- Use extreme caution to prevent violent reaction.
- Stop leak only if safe to so do.
- Water spray or fog may be used to disperse vapour.
- DO NOT enter confined space where gas may have collected
- ▶ Keep area clear until gas has dispersed.

Major Spills

- Remove leaking cylinders to a safe place.
- Fit vent pipes. Release pressure under safe, controlled conditions
- Burn issuing gas at vent pipes.
- DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.
- 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.

- 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

- 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

Storage incompatibility

- 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

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n-Pentane

- reacts violently with strong oxidisers
- attacks some plastics, rubber and coatings
- may generate static charges o flow or agitation, due to low conductivity

Ethers

- $\boldsymbol{\cdot}$ 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.
- ▶ 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.
- Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances

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	acetone	Acetone	500 ppm / 1185 mg/m3	2375 mg/m3 / 1000 ppm	Not Available	Not Available
Australia Exposure Standards	dimethyl ether	Dimethyl ether	400 ppm / 760 mg/m3	950 mg/m3 / 500 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
isopentane	3000* ppm	33000*** ppm	200000*** ppm
acetone	Not Available	Not Available	Not Available
dimethyl ether	3,000 ppm	3800* ppm	7200* ppm

Ingredient	Original IDLH	Revised IDLH
isopentane	Not Available	Not Available
acetone	2,500 ppm	Not Available
dimethyl ether	Not Available	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 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.

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

Eye and face protection

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- 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 adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalentl
- Close fitting gas tight goggles

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.
- Hands/feet protection
- For potentially heavy exposures:
- Wear chemical protective gloves, eg. PVC. and safety footwear.
- Insulated gloves:

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

See Other protection below

- ▶ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
- Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

BRETHERICK: Handbook of Reactive Chemical Hazards.

No special equipment needed when handling small quantities. OTHERWISE:

Other protection

- Overalls
- Skin cleansing cream.
- Evewash 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	A
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	С
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С
VITON/NEOPRENE	С

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	Air-line*	AX-2	AX-PAPR-2 ^
up to 20 x ES	-	AX-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)

- 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.

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* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

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

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.

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**

^{** -} 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 on basic physical and chemical properties

Appearance	Not Available		
Physical state	Liquified Gas	Relative density (Water = 1)	0.690
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	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	601.13

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

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SECTION 11 Toxicological information

Information on toxicological effects

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.

Inhaled

Symptoms of pentane inhalation exposure may include hyperactivity, numbness and a persistent taste of gasoline. Inhalation of high vapour concentrations may result in coughing, headache, mild depression, inco-ordination, blurred vision, confusion, loss of appetite, nausea, vomiting, irregular heartbeat and unconsciousness.

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.

Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death.

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.

Spray mist may produce discomfort

Ingestion

Accidental ingestion of the material may be damaging to the health of the individual.

Ingestion of alkyl ethers may produce stupor, blurred vision, headache, dizziness and irritation of the nose and throat. Respiratory distress and asphyxia may result.

Not normally a hazard due to physical form of product.

Considered an unlikely route of entry in commercial/industrial environments

Ingestion of pentanes may result in nausea, vomiting, abdominal distension, diarrhoea, bleeding in the mucous membranes and suffocation leading to brain damage and death, while large doses may cause central nervous system depression and irregular heart rhythm.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)

| 5

Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.

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.

Skin Contact

Symptoms of pentane exposure may include drying, cracking, itching, blistering, redness, pigmentation, swelling, burning and pain. Body absorption is not expected to be a significant route of entry because its boiling point is less than body temperature.

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.

Vapourising liquid causes rapid cooling and contact may cause cold burns, frostbite, even through normal gloves. Frozen skin tissues are painless and appear waxy and yellow. Signs and symptoms of frost-bite may include "pins and needles", paleness followed by numbness, a hardening an stiffening of the skin, a progression of colour changes in the affected area, (first white, then mottled and blue and eventually black; on recovery, red, hot, painful and blistered).

Eye

This material can cause eye irritation and damage in some persons.

Not considered to be a risk because of the extreme volatility of the gas.

Eye contact with alkyl ethers (vapour or liquid) may produce irritation, redness and tears.

Eye-contact with the liquid pentanes may cause irritation of the eye and mucous membranes resulting in pain, drying, redness, swelling and excessive secretion of tears.

Chronic

Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.

Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

Main route of exposure to the gas in the workplace is by inhalation.

Chronic exposure to alkyl ethers may result in loss of appetite, excessive thirst, fatigue, and weight loss.

Chronic or repeated exposure to pentanes may cause lung inflammation, fluid in the lungs and nerve damage. It may manifest with dizziness, weight loss, anaemia, nervousness, pain in the limbs and numbness ("pins and needles sensation").

Inhalation may result in chrome ulcers or sores in the mucous membranes of the nose, and lung damage.

TensorGrip F40 500ml Aerosol Spray Adhesive	TOXICITY	IRRITATION
	Not Available	Not Available
	TOXICITY	IRRITATION
isopentane	Inhalation(Rat) LC50; >25.3 mg/l4h ^[1]	Not Available
	Oral (Rat) LD50; >2000 mg/kg ^[1]	
	TOXICITY	IRRITATION
acetone	Dermal (rabbit) LD50: 20000 mg/kg ^[2]	Eye (human): 500 ppm - irritant
	Inhalation(Mouse) LC50; 44 mg/L4h ^[2]	Eye (rabbit): 20mg/24hr -moderate
	Oral (Rat) LD50; 5800 mg/kg ^[2]	Eye (rabbit): 3.95 mg - SEVERE

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		Eye: adverse effect observed (irritating) ^[1]
	Skin (rabbit): 500 mg/24hr - mild	
	Skin (rabbit):395mg (open) - mild	
		Skin: no adverse effect observed (not irritating) ^[1]
	TOXICITY	IRRITATION
dimethyl ether	Inhalation(Rat) LC50; >20000 ppm4h ^[1] Not Available	
	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	

TensorGrip F40 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.

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.

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:

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

🎺 – Data available to make classification

SECTION 12 Ecological information

Toxicity

5 O 540 500 I A I	Endpoint	Test Duration (hr)		Species		Value	Source
FensorGrip F40 500ml Aerosol Spray Adhesive	Not Available	Not Available		Not Available		Not Available	Not Available
	Endpoint	Test Duration (hr)		Species		Value	Source
	EC50(ECx)	72h		Algae or other aquatic plants		1.26mg/l	2
	LC50	96h		Fish		4.26mg/l	2
isopentane	EC50	72h		Algae or other aquatic plants		1.26mg/l	2
	EC50	48h		Crustacea		2.3mg/l	1
	EC50	96h Algae or other aquatic plants			5.2mg/l	2	
	Endpoint	Test Duration (hr)	Sį	pecies	Value)	Source
	NOEC(ECx)	12h	Fi	Fish 0.001		mg/L	4
acetone	LC50	96h	Fi	sh	3744.	.6-5000.7mg/L	4
	EC50	48h	Cı	rustacea	6098.	.4mg/L	5
	EC50	96h	Al	Algae or other aquatic plants 9.873		3-27.684mg/l	4
	Endpoint	Test Duration (hr)		Species		Value	Source
	NOEC(ECx)	48h		Crustacea		>4000mg/l	1
dimethyl ether	LC50	96h		Fish		1783.04mg/l	2
·	EC50	48h		Crustacea		>4400mg/L	2
	EC50	96h		Algae or other aquatic plants		154.917mg/l	2
Legend:	Ecotox databas			d Substances - Ecotoxicological Inforr rd Assessment Data 6. NITE (Japan)			

Harmful 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.

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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 Isopentane: Koc ~520; Henry's Law Constant: 1.4 atm-cu m/mole; Water Solubility: 48mg/L; Vapor pressure ~689 mm Hg.

Atmospheric Fate: Isopentane is expected to exist only as vapor in the atmosphere. Vapor-phase isopentane is degraded in the atmosphere by reaction with photochemicallyproduced hydroxyl radicals; the half-life for this reaction in air is estimated to be 4 days.

Terrestrial Fate: Soil - Isopentane is expected to have low mobility in soil. Volatilization of isopentane from moist and dry soil surfaces is expected to be an important fate process.

Aquatic Fate: Isopentane is water soluble and may biodegrade in water. Isopentane has been shown to completely degrade under aerobic conditions and is expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected to occur rapidly.

Ecotoxicity: Bioconcentration in aquatic organisms is expected to be moderate. Isopentane is acutely toxic to Daphnia magna water fleas.

DO NOT discharge into sewer or waterways

Persistence and degradability

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

Bioaccumulative potential

•	
Ingredient	Bioaccumulation
isopentane	LOW (LogKOW = 2.7234)
acetone	LOW (BCF = 0.69)
dimethyl ether	LOW (LogKOW = 0.1)

Mobility in soil

Ingredient	Mobility
isopentane	LOW (KOC = 67.7)
acetone	HIGH (KOC = 1.981)
dimethyl ether	HIGH (KOC = 1.292)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- 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



Marine Pollutant

HAZCHEM Not Applicable

Land transport (ADG)

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

Air transport (ICAO-IATA / DGR)

	<u>, </u>
UN number	1950
UN proper shipping name	Aerosols, flammable (contains isopentane, acetone and dimethyl ether)

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	ICAO/IATA Class	2.1		
Transport hazard class(es)	ICAO / IATA Subrisk	Not Applicable		
	ERG Code 10L			
Packing group	Not Applicable			
Environmental hazard	Not Applicable			
	Special provisions	A145 A167 A802		
	Cargo Only Packing Ir	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		
	Passenger and Cargo	Maximum Qty / Pack	75 kg	
		Maximum Qty / Pack Limited Quantity Packing Instructions	75 kg Y203	

Sea transport (IMDG-Code / GGVSee)

UN number	1950		
UN proper shipping name	AEROSOLS (contains isopentane, acetone and dimethyl ether)		
Transport hazard class(es)	IMDG Class IMDG Subrisk	2.1 Not Applicable	
Packing group	Not Applicable		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number Special provisions Limited Quantities		

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

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

Product name	Group
isopentane	Not Available
acetone	Not Available
dimethyl ether	Not Available

Transport in bulk in accordance with the ICG Code

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

SECTION 15 Regulatory information

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

isopentane 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 4

Australian Inventory of Industrial Chemicals (AIIC)

acetone is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals $\label{eq:australia} \textbf{Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - \\$ Schedule 5

Australian Inventory of Industrial Chemicals (AIIC)

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

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes

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National Inventory	Status
Canada - NDSL	No (isopentane; acetone; dimethyl ether)
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

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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

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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