

ANDREW GENERAL PURPOSE THINNER

Damar Industries Limited

Chemwatch Hazard Alert Code: 3

Version No: 2.7

Safety Data Sheet according to HSNO Regulations

Issue Date: 09/10/2018

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S.GHS.NZL.EN

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

Product Identifier

Product name	ANDREW GENERAL PURPOSE THINNER
Synonyms	ALE0152; ALG0152; ALK0152; ALN0152
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains toluene and cyclohexane)
Other means of identification	Not Available

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

Relevant identified uses	General use thinning solvent.
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Details of the supplier of the safety data sheet

Registered company name	Damar Industries Limited
Address	800 Te Ngae Road BOP New Zealand
Telephone	+64 7 345 6007
Fax	+64 7 345 6019
Website	www.damarindustries.co.nz
Email	info@damarindustries.co.nz

Emergency telephone number

Association / Organisation	CHEMCALL (0800 CHEMCALL)
Emergency telephone numbers	0800 243 622
Other emergency telephone numbers	1800 127 406 (outside New Zealand)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	3	
Toxicity	2	
Body Contact	2	
Reactivity	0	
Chronic	2	

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

Classification ^[1]	Flammable Liquid Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 5, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Reproductive Toxicity Category 2, Specific target organ toxicity - repeated exposure Category 2, Chronic Aquatic Hazard Category 3, Acute Vertebrate Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Determined by
Chemwatch using
GHS/HSNO criteria

3.1B, 6.1D (oral), 6.1E (inhalation), 6.3A, 6.4A, 6.8B, 6.9B, 9.1C, 9.3C

Label elements

Hazard pictogram(s)



SIGNAL WORD

DANGER

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H333	May be harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
H433	Harmful to terrestrial vertebrates.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P312	IF INHALED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
108-88-3*	50-60	<u>toluene</u>
67-64-1*	12-20	<u>acetone</u>
Not Available	10-20	heptane & isomers
108-10-1*	1-10	<u>methyl isobutyl ketone</u>
67-63-0*	1-10	<u>isopropanol</u>

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110-82-7*	1-10	<u>cyclohexane</u>
96-37-7*	1-5	<u>methylcyclopentane</u>
Not Available	1-5	octane & isomers

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

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
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves in the event of a fire. ▶ Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Liquid and vapour are highly flammable. ▶ Severe fire hazard when exposed to heat, flame and/or oxidisers. ▶ Vapour may travel a considerable distance to source of ignition. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. <p>Combustion products include: Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</p>

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	<ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment.
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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.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. <p>Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> ▶ Check for bulging containers. ▶ Vent periodically ▶ Always release caps or seals slowly to ensure slow dissipation of vapours ▶ 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.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers in approved flame-proof area. ▶ No smoking, naked lights, heat or ignition sources. ▶ DO NOT store in pits, depressions, basements or areas where vapours may be trapped. ▶ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Packing as supplied by manufacturer. ▶ Plastic containers may only be used if approved for flammable liquid. ▶ Check that containers are clearly labelled and free from leaks. ▶ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure. ▶ For materials with a viscosity of at least 2680 cSt. (23 deg. C) ▶ For manufactured product having a viscosity of at least 250 cSt.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	toluene	Toluene (Toluol)	50 ppm / 188 mg/m ³	Not Available	Not Available	(skin) - Skin absorption
New Zealand Workplace Exposure Standards (WES)	acetone	Acetone	500 ppm / 1185 mg/m ³	2375 mg/m ³ / 1000 ppm	Not Available	(bio) - Exposure can also be estimated by biological monitoring.
New Zealand Workplace Exposure Standards (WES)	methyl isobutyl ketone	Methyl isobutyl ketone (Hexone)	50 ppm / 205 mg/m ³	307 mg/m ³ / 75 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	isopropanol	Isopropyl alcohol	400 ppm / 983 mg/m ³	1230 mg/m ³ / 500 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	cyclohexane	Cyclohexane	100 ppm / 350 mg/m ³	1050 mg/m ³ / 300 ppm	Not Available	Not Available


EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
toluene	Toluene	Not Available	Not Available	Not Available
acetone	Acetone	Not Available	Not Available	Not Available
methyl isobutyl ketone	Methyl isobutyl ketone; (Hexone)	75 ppm	500 ppm	3000 ppm
isopropanol	Isopropyl alcohol	400 ppm	2000 ppm	12000 ppm
cyclohexane	Cyclohexane	300 ppm	1700 ppm	10000 ppm

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Ingredient	Original IDLH	Revised IDLH
methylcyclopentane	Methylcyclopentane	14 ppm
toluene	500 ppm	Not Available
acetone	2,500 ppm	Not Available
heptane & isomers	Not Available	Not Available
methyl isobutyl ketone	500 ppm	Not Available
isopropanol	2,000 ppm	Not Available
cyclohexane	1,300 ppm	Not Available
methylcyclopentane	Not Available	Not Available
octane & isomers	Not Available	Not Available

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ 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.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. ▶ Eyewash unit. ▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. ▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). ▶ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.

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 **computer-generated** selection:

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Material	CPI
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVC	C

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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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid with a strong solvent odour; partially miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	0.80-0.85
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	56	Molecular weight (g/mol)	Not Available
Flash point (°C)	-17	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	7.9	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.4	Volatile Component (%vol)	100
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	>1	VOC g/L	816.81

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ 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

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p>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.</p>
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Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. 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.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.

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	Not Available	Not Available
toluene	Dermal (rabbit) LD50: 12124 mg/kg ^[2] Inhalation (Human) TClO: 100 ppm ^[2] Inhalation (man) TClO: 200 ppm ^[2] Inhalation (rat) LC50: >26700 ppm/1h ^[2] Oral (rat) LD50: 636 mg/kg ^[2] Oral (Human)LDLo: 50 mg/kg ^[2]	Eye (rabbit): 2mg/24h - SEVERE Eye (rabbit):0.87 mg - mild Eye (rabbit):100 mg/30sec - mild Eye: adverse effect observed (irritating) ^[1] Skin (rabbit):20 mg/24h-moderate Skin (rabbit):500 mg - moderate Skin: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
acetone	Dermal (rabbit) LD50: 20000 mg/kg ^[2] Inhalation (Human) TClO: 500 ppm ^[2] Inhalation (man) TClO: 10 mg/m ³ /6 hr ^[2] Inhalation (man) TClO: 12000 ppm/4 hr ^[2] Inhalation (rat) LC50: 50100 mg/m ³ /8 hr ^[2] Oral (man) TDL: 2857 mg/kg ^[2] Oral (rat) LD50: 5800 mg/kg ^[2]	Eye (human): 500 ppm - irritant Eye (rabbit): 20mg/24hr - moderate Eye (rabbit): 3.95 mg - SEVERE 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]
methyl isobutyl ketone	Oral (rat) LD50: 2080 mg/kg ^[2] Oral (rat) LD50: 2460 mg/kg ^[2]	Eye (human): 200 ppm/15m Eye (rabbit): 40 mg - SEVERE Eye (rabbit): 500 mg/24h - mild Skin (rabbit): 500 mg/24h - mild
isopropanol	Dermal (rabbit) LD50: 12800 mg/kg ^[2] Inhalation (Human) TClO: 150 ppm/2h ^[2] Inhalation (Human) TClO: 35 ppm/4h ^[2] Inhalation (mouse) LC50: 53000 mg/m ³ /4h ^[2] Inhalation (rat) LC50: 72600 mg/m ³ /4h ^[2] Intraperitoneal (Guinea pig) LD50: 2560 mg/kg ^[2] Intraperitoneal (Mouse) LD50: 4477 mg/kg ^[2] Intraperitoneal (Rabbit) LD50: 667 mg/kg ^[2] Intraperitoneal (Rat) LD50: 2735 mg/kg ^[2] Intraperitoneal (Rat) TDL: 800 mg/kg ^[2] Intravenous (Cat) LD: 1963 mg/kg ^[2]	Eye (rabbit): 10 mg - moderate Eye (rabbit): 100 mg - SEVERE Eye (rabbit): 100mg/24hr-moderate Skin (rabbit): 500 mg - mild

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	Intravenous (Dog) LD: 1024 mg/kg ^[2]	
	Intravenous (Mouse) LD50: 1509 mg/kg ^[2]	
	Intravenous (Rabbit) LD50: 1184 mg/kg ^[2]	
	Intravenous (Rat) LD50: 1088 mg/kg ^[2]	
	Oral (Dog) LD: 1537 mg/kg ^[2]	
	Oral (man) TDLo: 14432 mg/kg ^[2]	
	Oral (mouse) LD50: 3600 mg/kg ^[2]	
	Oral (Rabbit) LD50: 6410 mg/kg ^[2]	
	Oral (rat) LD50: 5000 mg/kg ^[2]	
	Oral (rat) LD50: 5045 mg/kg ^[2]	
	Oral (Human)LD: 3570 mg/kg ^[2]	
	Oral (Human)LD: 5272 mg/kg ^[2]	
	Oral (Human)LDLo: 3570 mg/kg ^[2]	
	Oral (Human)TDLo: 14432 mg/kg ^[2]	
	Oral (Human)TDLo: 223 mg/kg ^[2]	
	Oral (Human)TDLo: 286 mg/kg ^[2]	
cyclohexane	TOXICITY	IRRITATION
	Oral (rat) LD50: 12705 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin(rabbit): 1548 mg/48hr - mild
		Skin: adverse effect observed (irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]
methylcyclopentane	TOXICITY	IRRITATION
	Inhalation (Mouse)LCLo: 95000 mg/m ³ ^[2]	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	

toluene	For toluene: Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy.
acetone	For acetone: The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause macrocytic anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/cubic metre has not caused neurobehavioural deficits.
methyl isobutyl ketone	MIBK is primarily absorbed by the lungs in animals and humans but can be absorbed by the skin, stomach and gut. If inhaled, it may be found in the brain, liver, lung, vitreous fluid, kidney and blood. Oral and respiratory routes of exposure are of minimal effect with changes seen only in the liver and kidney. MIBK does not cause genetic damage or harm the foetus or offspring, and has low toxicity to aquatic organisms. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
isopropanol	Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled. 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.
cyclohexane	Bacteria mutagen
toluene & acetone & methyl isobutyl ketone & isopropanol	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.
methyl isobutyl ketone & methylcyclopentane	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

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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.

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 not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

ANDREW GENERAL PURPOSE THINNER	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
toluene	LC50	96	Fish	0.0073mg/L	4
	EC50	48	Crustacea	3.78mg/L	5
	EC50	72	Algae or other aquatic plants	12.5mg/L	4
	BCF	24	Algae or other aquatic plants	10mg/L	4
	NOEC	168	Crustacea	0.74mg/L	5
acetone	LC50	96	Fish	5-540mg/L	2
	EC50	48	Crustacea	>100mg/L	4
	EC50	96	Algae or other aquatic plants	20.565mg/L	4
	NOEC	240	Crustacea	1-866mg/L	2
methyl isobutyl ketone	LC50	96	Fish	69.808mg/L	3
	EC50	48	Crustacea	=170mg/L	1
	EC50	96	Algae or other aquatic plants	275.488mg/L	3
	NOEC	504	Crustacea	30mg/L	2
isopropanol	LC50	96	Fish	9-640mg/L	2
	EC50	48	Crustacea	12500mg/L	5
	EC50	96	Algae or other aquatic plants	993.232mg/L	3
	EC0	24	Crustacea	5-102mg/L	2
	NOEC	5760	Fish	0.02mg/L	4
cyclohexane	LC50	96	Fish	1.967mg/L	3
	EC50	48	Crustacea	0.9mg/L	2
	EC50	96	Algae or other aquatic plants	2.17mg/L	2
	EC20	72	Algae or other aquatic plants	28mg/L	2
	NOEC	72	Algae or other aquatic plants	0.952mg/L	2
methylcyclopentane	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE

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	LC50	96	Fish	2.250mg/L	3
	EC50	96	Algae or other aquatic plants	4.442mg/L	3
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
heptane & isomers	LOW	LOW
methyl isobutyl ketone	HIGH (Half-life = 7001 days)	LOW (Half-life = 1.9 days)
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
cyclohexane	HIGH (Half-life = 360 days)	LOW (Half-life = 3.63 days)
methylcyclopentane	LOW	LOW
octane & isomers	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
toluene	LOW (BCF = 90)
acetone	LOW (BCF = 0.69)
heptane & isomers	HIGH (LogKOW = 4.66)
methyl isobutyl ketone	LOW (LogKOW = 1.31)
isopropanol	LOW (LogKOW = 0.05)
cyclohexane	LOW (BCF = 242)
methylcyclopentane	LOW (LogKOW = 3.37)
octane & isomers	HIGH (LogKOW = 5.18)

Mobility in soil

Ingredient	Mobility
toluene	LOW (KOC = 268)
acetone	HIGH (KOC = 1.981)
heptane & isomers	LOW (KOC = 274.7)
methyl isobutyl ketone	LOW (KOC = 10.91)
isopropanol	HIGH (KOC = 1.06)
cyclohexane	LOW (KOC = 165.5)
methylcyclopentane	LOW (KOC = 145.3)
octane & isomers	LOW (KOC = 506.7)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). ▶ Decontaminate empty containers.
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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

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Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.


The package must be disposed according to the manufacturer's directions taking into account the material it is made of.

Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	•3YE

Land transport (UN)

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains toluene and cyclohexane)
Transport hazard class(es)	Class : 3 Subrisk : Not Applicable
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : 274 Limited quantity : 1 L

Air transport (ICAO-IATA / DGR)

UN number	1993
UN proper shipping name	Flammable liquid, n.o.s. * (contains toluene and cyclohexane)
Transport hazard class(es)	ICAO/IATA Class : 3 ICAO / IATA Subrisk : Not Applicable ERG Code : 3H
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : A3 Cargo Only Packing Instructions : 364 Cargo Only Maximum Qty / Pack : 60 L Passenger and Cargo Packing Instructions : 353 Passenger and Cargo Maximum Qty / Pack : 5 L Passenger and Cargo Limited Quantity Packing Instructions : Y341 Passenger and Cargo Limited Maximum Qty / Pack : 1 L

Sea transport (IMDG-Code / GGVSee)

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains toluene and cyclohexane)

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Transport hazard class(es)	IMDG Class	3
	IMDG Subrisk	Not Applicable
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-E , S-E
	Special provisions	274
	Limited Quantities	1 L

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

Not Applicable

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002650	Solvents (Flammable) Group Standard 2017

TOLUENE(108-88-3*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles	International Maritime Dangerous Goods Requirements (IMDG Code)
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards	New Zealand Inventory of Chemicals (NZIoC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	New Zealand Workplace Exposure Standards (WES)
International Air Transport Association (IATA) Dangerous Goods Regulations	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

ACETONE(67-64-1*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
IMO IBC Code Chapter 18: List of products to which the Code does not apply	New Zealand Inventory of Chemicals (NZIoC)
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	New Zealand Workplace Exposure Standards (WES)
International Air Transport Association (IATA) Dangerous Goods Regulations	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
International Maritime Dangerous Goods Requirements (IMDG Code)	

METHYL ISOBUTYL KETONE(108-10-1*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	New Zealand Inventory of Chemicals (NZIoC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	New Zealand Workplace Exposure Standards (WES)
International Air Transport Association (IATA) Dangerous Goods Regulations	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
International Maritime Dangerous Goods Requirements (IMDG Code)	

ISOPROPANOL(67-63-0*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO IBC Code Chapter 18: List of products to which the Code does not apply

IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances

IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

CYCLOHEXANE(110-82-7*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

METHYLCYCLOPENTANE(96-37-7*) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
3.1B	100 L in containers greater than 5 L 250 L in containers up to and including 5 L	50 L 50 L

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
3.1B	250 L (when in containers greater than 5 L) 500 L (when in containers up to and including 5 L)

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (isopropanol; acetone; methylcyclopentane; octane & isomers; heptane & isomers; methyl isobutyl ketone; cyclohexane; toluene)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECL	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes

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USA - TSCA	Yes
Legend:	<i>Yes = All ingredients are on the inventory</i> <i>No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

SECTION 16 OTHER INFORMATION

Revision Date	09/10/2018
Initial Date	26/04/2017

Other information

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

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

Definitions and abbreviations

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

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