

SAFETY DATA SHEET



DEFENDER CSD 50

APPLIED PRODUCTS AUSTRALIA PTY LTD

Catalogue number: AP677.05

Version No: 2.1

Issue date: 18/05/2021

Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

Product name	DEFENDER CSD 50
Product code	AP677.05
Pack sizes	500ml & 5L

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

Relevant identified uses	Stone consolidator / strengthening water repellent
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Details of the supplier of the safety data sheet

Registered company name	APPLIED PRODUCTS AUSTRALIA PTY LTD
Address	11 Gamma Close, Beresfield 2322 NSW Australia
Telephone	(02) 4966 5516
Website	www.actichem.com.au
Email	info@actichem.com.au

Emergency telephone number

Association / Organisation	Poisons Information Centre
Emergency telephone numbers	13 1126
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

Poisons Schedule	5
GHS Classification	Aspiration Hazard Category 1, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - single exposure Category 3 (narcotic effects), Flammable Liquid Category 3 <i>Classification drawn from HCIS and ECHA C&L Inventory.</i>

Label elements

GHS label elements	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness.
AUH066	Repeated exposure may cause skin dryness and cracking
H226	Flammable liquid and vapour.

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection / face protection.
P261	Avoid breathing mist / vapours / spray.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking .
P233	Keep container tightly closed.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical / ventilating / lighting / intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

Precautionary statement(s) Response

P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338+P337+P313	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice / attention.
P304+P340+P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.

Precautionary statement(s) Storage

P403+P405+P233	Store locked up, in a well-ventilated place. Keep container tightly closed.
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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
64742-48-9	30-60	<u>naphtha petroleum, isoparaffin, hydrotreated</u>
108-65-6	<10	<u>propylene glycol monomethyl ether acetate</u>
78-10-4	30-60	<u>tetraethyl silicate</u>
64-17-5	<10	<u>ethanol</u>
Trade secret	<10	<u>proprietary alkylsilicone resin</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <p>Wash out immediately with fresh running water.</p> <p>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.</p> <p>Seek medical attention without delay;</p> <p>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</p> <p>If pain persists or recurs seek medical attention.</p>
Skin Contact	<p>If skin contact occurs:</p> <p>Immediately remove all contaminated clothing, including footwear.</p> <p>Flush skin and hair with running water (and soap if available).</p> <p>Seek medical attention in event of irritation or rash.</p>
Inhalation	<p>If fumes or combustion products are inhaled remove from contaminated area.</p> <p>Lay patient down. Keep warm and rested.</p> <p>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</p> <p>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</p> <p>Transport to hospital, or doctor, without delay.</p>
Ingestion	<p>Seek medical advice / attention without delay</p> <p>If swallowed do NOT induce vomiting.</p> <p>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</p> <p>Observe the patient carefully.</p> <p>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</p> <p>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</p> <p>Avoid giving milk, oils or alcohol</p>

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation.

If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media	Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.
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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	Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. 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.
Fire/Explosion Hazard	WARNING: In use may form flammable/ explosive vapour-air mixtures. Flammable Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit acrid smoke. Mists containing combustible materials may be explosive. On combustion, may emit toxic fumes of carbon monoxide (CO), carbon dioxide (CO ₂), silicon dioxide (SiO ₂) and other pyrolysis products typical of burning organic material May emit corrosive fumes.
HAZCHEM	3Y

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	Environmental hazard - contain spillage. 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. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	Moderate environmental hazard - contain spillage. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Absorb on sand, dirt, vermiculite or similar absorbent material. Place into labelled drums and dispose of according to local government regulations. Immediately notify emergency services (Police or Fire Brigade) if the spill is too large for you to safely and effectively handle.
PPE	Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	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. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. Check for bulging containers. Vent periodically Always release caps or seals slowly to ensure slow dissipation of vapours Avoid splash filling. Do NOT use compressed air for filling discharging or handling operations. 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. Keep containers securely sealed when not in use. Avoid physical damage to containers and check regularly for leaks.
Other information	Store in original containers. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Ethyl silicate: reacts slowly with water forming ethanol reacts violently with strong oxidisers is incompatible with acids, nitrates attacks some plastics and rubber 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
Australia Exposure Standards	naphtha petroleum, isoparaffin, hydrotreated	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether acetate	1-Methoxy-2-propanol acetate	274 mg/m3 / 50 ppm	548 mg/m3 / 100 ppm	Not Available	Sk
Australia Exposure Standards	tetraethyl silicate	Ethyl silicate	85 mg/m3 / 10 ppm	Not Available	Not Available	Not Available
Australia Exposure Standards	ethanol, denatured	Ethyl alcohol	1880 mg/m3 / 1000	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
naphtha petroleum, isoparaffin, hydrotreated	Oil mist, refined mineral	171 ppm	171 ppm	570 ppm
ethanol, denatured	Ethyl alcohol	Not Available	Not Available	Not Available
tetraethyl silicate	Ethyl silicate	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
naphtha petroleum, isoparaffin, hydrotreated	Not Available	Not Available
ethanol, denatured	15,000 ppm	3,300[LEL] ppm
tetraethyl silicate	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Maintain adequate ventilation at all times. In most circumstances natural ventilation systems are adequate. If ventilation is poor, then the use of a local exhaust ventilation system is recommended.
Personal protection	
Eye and face protection	Safety glasses with side shields OR Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. 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.
Skin protection	See Hand protection below
Hands/feet protection	Wear chemical protective gloves, e.g. PVC. The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
Body protection	See Other protection below
Other protection	Overalls. P.V.C. apron. Barrier cream. Eye wash unit.
Thermal hazards	Not Available

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Mild solvent	Viscosity (cSt)	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 Applicable	Partition coefficient n-octanol / water	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Flash point (°C)	>25C	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	FLAMMABLE	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Molecular weight (g/mol)	Not Available
Lower Explosive Limit(%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	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	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, anesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. 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.
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. 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. The material may accentuate any pre-existing dermatitis condition 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	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

Toxicological effects of ingredients

tetraethyl silicate	Acute toxicity	Oral LD50 (rat) >2500 mg/kg Inhalation LC50 (rat) 10-16 mg/L 4 hr
	Skin corrosion/irritation	Not irritating, rabbit, OECD 404
	Eye damage/irritation	Not irritating, rabbit, OECD 405 / Irritating, human
	Respiratory/skin sensitization	No sensitizing effects, guinea pig, OECD 406
	Germ cell mutagenicity	Not mutagenic
	Carcinogenicity	No evidence that cancer may be caused.
	Reproductive toxicity	Animal testing did not show any effects on fertility.
	STOT (single exposure)	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation
	STOT (repeated exposure)	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
	Aspiration toxicity	No Aspiration toxicity classification

naphtha petroleum, hydrotreated heavy	Acute toxicity	Oral LD50 (rat) >5000 mg/kg Dermal LD50 (rabbit) >5000 mg/kg Inhalation LC50 (rat) >5000 mg/m3 (8hr)
	Skin corrosion/irritation	Mildly irritating to skin with prolonged exposure (Based on test data for structurally similar materials)
	Eye damage/irritation	May cause mild, short-lasting discomfort to eyes (Based on test data for structurally similar materials)
	Respiratory/skin sensitization	Not expected to be a respiratory or skin sensitiser. (Based on test data for structurally similar materials)
	Germ cell mutagenicity	Not expected to be a germ cell mutagen (Based on test data for structurally similar materials)
	Carcinogenicity	Not expected to cause cancer (Based on test data for structurally similar materials)
	Reproductive toxicity	Not expected to be a reproductive toxicant (Based on test data for structurally similar materials)
	STOT (single exposure)	Not expected to cause organ damage from a single exposure. Negligible hazard at ambient/normal handling temperatures. Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects including death.
	STOT (repeated exposure)	Not expected to cause organ damage from prolonged or repeated exposure (Based on test data for structurally similar materials). Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis
	Aspiration toxicity	May be fatal if swallowed and enters airways (Based on physicochemical properties of the material). Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
propylene glycol monomethyl ether acetate	Acute toxicity	Oral ATE >2000 mg/kg Dermal ATE >2000 mg/kg Inhalation ATE >20 mg/L
	Skin corrosion/irritation	Not irritating
	Eye damage/irritation	Not irritating
	Respiratory/skin sensitization	not a respiratory sensitiser. / not a skin sensitiser
	Germ cell mutagenicity	This material has been classified as non-hazardous
	Carcinogenicity	This material has been classified as non-hazardous
	Reproductive toxicity	This material has been classified as non-hazardous
	STOT (single exposure)	No data available
	STOT (repeated exposure)	This material has been classified as non-hazardous
	Aspiration toxicity	This material has been classified as non-hazardous
ethanol	Acute toxicity	Oral LD50 (mouse) 3450 mg/kg Inhalation LC50 (rat) 2000 ppm/10hrs
	Skin corrosion/irritation	Irritating to skin. Prolonged contact may result in drying and defatting of the skin, rash and dermatitis.
	Eye damage/irritation	Irritating to eyes. Exposure may result in lacrimation, irritation, pain and redness
	Respiratory/skin sensitization	No Data Available
	Germ cell mutagenicity	No Data Available
	Carcinogenicity	No Data Available
	Reproductive toxicity	No Data Available
	STOT (single exposure)	No Data Available
	STOT (repeated exposure)	Chronic ingestion may result in cirrhosis of the liver
	Aspiration toxicity	No Data Available

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

	Endpoint	Duration (Hr.)	Species	Value
tetraethyl silicate	LC5	96	Brachydanio rerio,	>245 mg/L
	EC50	48	Daphnia magna,	>75 mg/L
	EC50	72	Pseudokirchnerella subcapitata,	>100 mg/L
	NOEC	72	Pseudokirchnerella subcapitata,	>100 mg/L
	EC50	3	Bacteria - Activated sludge,	>100 mg/L
naphtha petroleum, hydrotreated heavy	EC50(ECx)	96h	Algae or other aquatic plants	64mg/l
	EC50	96h	Algae or other aquatic plants	64mg/l
ethanol, denatured	LC50	96	Fish	42-mg/L
	EC50	48	Crustacea	2-mg/L
	EC50	96	Algae or other aquatic plants	-8.358-26.503mg/L
	EC10	168	Algae or other aquatic plants	1.91-mg/L
	NOEC	2016	Fish	0.000375-mg/L

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
tetraethyl silicate	HIGH	HIGH

Bio accumulative potential

Ingredient	Bioaccumulation
ethanol	LOW (LogKOW = -0.31)
tetraethyl silicate	LOW (LogKOW = 0.0362)

Mobility in soil

Ingredient	Mobility
ethanol	HIGH (KOC = 1)
tetraethyl silicate	LOW (KOC = 8766)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / packaging disposal	Recycle containers whenever possible. Product residues and containers should be disposed of in accordance with local government regulations.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	3Y

Land transport (ADG) Not applicable. NOT REGULATED FOR DANGEIOUS GOODS IN PACK SIZES OF 5L OR LESS

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture**NAPHTHA PETROLEUM, ISOPARAFFIN, HYDROTREATED IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

TETRAETHYL SILICATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

ETHANOL, DENATURED IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

SECTION 16 OTHER INFORMATION

Revision Schedule

Revision Date	18/05/2021
Initial Date	08/11/2016

SDS Version Summary

Version	Issue Date	Sections Updated
2.1	18/05/2021	Sections 2, 3, 11, 12, 15, 16 have been updated or corrected

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources such as the ECHA C&L Chemical Inventory, HSNO (CCID) New Zealand, AICIS and HCIS Australia

DISCLAIMER: While the information in this Safety Data Sheet (SDS) is believed to be true and accurate based on the current level of knowledge available to us, the author makes no representations as to its accuracy or sufficiency. Conditions of use are beyond the control of APPLIED PRODUCTS AUSTRALIA PTY LTD and therefore the users are responsible to verify this data under their own particular conditions of use, applications and regulations to determine whether the product is suitable for their particular purpose and they assume all risks of their use, handling, disposal, reliance upon, publication or use of the information contained herein. This information applies only to the product designated above and does not necessarily apply to its use in combination with other materials, products, chemical compounds, structures, or processes.

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 Government Industrial Hygienists
STEL;	Short Term Exposure Limit
TEEL;	Temporary Emergency Exposure Limit
IDLH;	Immediate Danger to Life or Health Concentrations
OSF;	Odour Safety Factor
NOAEL;	No Observed Effects Level
TLV;	Threshold Limit Value
LOD;	Limit Of Detection
OTV;	Odour Threshold Value
BCF;	Bio Concentration Factors
BEI;	Biological Exposure Index

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End of SDS

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DEFENDER CSD 50

APPLIED PRODUCTS AUSTRALIA PTY LTD

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Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

Product name	DEFENDER CSD 50
Product code	AP677.15
Pack sizes	15L
Proper shipping name	FLAMMABLE LIQUID, N.O.S.

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

Relevant identified uses	Stone consolidator / strengthening water repellent
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Details of the supplier of the safety data sheet

Registered company name	APPLIED PRODUCTS AUSTRALIA PTY LTD
Address	11 Gamma Close, Beresfield 2322 NSW Australia
Telephone	(02) 4966 5516
Website	www.actichem.com.au
Email	info@actichem.com.au

Emergency telephone number

Association / Organisation	Poisons Information Centre
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	Not Available


SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

Poisons Schedule	5
GHS Classification	Aspiration Hazard Category 1, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - single exposure Category 3 (narcotic effects), Flammable Liquid Category 3 <i>Classification drawn from HCIS and ECHA C&L Inventory.</i>

Label elements

GHS label elements	
SIGNAL WORD	DANGER

Hazard statement(s)

H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness.
AUH066	Repeated exposure may cause skin dryness and cracking
H226	Flammable liquid and vapour.

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection / face protection.
P261	Avoid breathing mist / vapours / spray.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking .
P233	Keep container tightly closed.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical / ventilating / lighting / intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

Precautionary statement(s) Response

P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338+P337+P313	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice / attention.
P304+P340+P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.

Precautionary statement(s) Storage

P403+P405+P233	Store locked up, in a well-ventilated place. Keep container tightly closed.
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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
64742-48-9	30-60	<u>naphtha petroleum, isoparaffin, hydrotreated</u>
108-65-6	<10	<u>propylene glycol monomethyl ether acetate</u>
78-10-4	30-60	<u>tetraethyl silicate</u>
64-17-5	<10	<u>ethanol</u>
Trade secret	<10	<u>proprietary alkylsilicone resin</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes: 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; Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. If pain persists or recurs seek medical attention.</p>
Skin Contact	<p>If skin contact occurs: 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 or rash.</p>
Inhalation	<p>If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.</p>
Ingestion	<p>Seek medical advice / attention without delay If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Avoid giving milk, oils or alcohol</p>

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation.

If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media	<p>Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.</p>
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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	<p>Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. 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.</p>
Fire/Explosion Hazard	<p>WARNING: In use may form flammable/ explosive vapour-air mixtures. Flammable Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit acrid smoke. Mists containing combustible materials may be explosive. On combustion, may emit toxic fumes of carbon monoxide (CO), carbon dioxide (CO₂), silicon dioxide (SiO₂) and other pyrolysis products typical of burning organic material May emit corrosive fumes.</p>
HAZCHEM	3Y

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>Environmental hazard - contain spillage. 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. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.</p>
Major Spills	<p>Moderate environmental hazard - contain spillage. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Absorb on sand, dirt, vermiculite or similar absorbent material. Place into labelled drums and dispose of according to local government regulations. Immediately notify emergency services (Police or Fire Brigade) if the spill is too large for you to safely and effectively handle.</p>
PPE	Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<p>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. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. Check for bulging containers. Vent periodically Always release caps or seals slowly to ensure slow dissipation of vapours Avoid splash filling. Do NOT use compressed air for filling discharging or handling operations. 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. Keep containers securely sealed when not in use. Avoid physical damage to containers and check regularly for leaks.</p>
Other information	<p>Store in original containers. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Observe manufacturer's storage and handling recommendations contained within this SDS.</p>

Conditions for safe storage, including any incompatibilities

Suitable container	Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Ethyl silicate: reacts slowly with water forming ethanol reacts violently with strong oxidisers is incompatible with acids, nitrates attacks some plastics and rubber 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
Australia Exposure Standards	naphtha petroleum, isoparaffin, hydrotreated	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether acetate	1-Methoxy-2-propanol acetate	274 mg/m3 / 50 ppm	548 mg/m3 / 100 ppm	Not Available	Sk
Australia Exposure Standards	tetraethyl silicate	Ethyl silicate	85 mg/m3 / 10 ppm	Not Available	Not Available	Not Available
Australia Exposure Standards	ethanol, denatured	Ethyl alcohol	1880 mg/m3 / 1000	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
naphtha petroleum, isoparaffin, hydrotreated	Oil mist, refined mineral	171 ppm	171 ppm	570 ppm
ethanol, denatured	Ethyl alcohol	Not Available	Not Available	Not Available
tetraethyl silicate	Ethyl silicate	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
naphtha petroleum, isoparaffin, hydrotreated	Not Available	Not Available
ethanol, denatured	15,000 ppm	3,300[LEL] ppm
tetraethyl silicate	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Maintain adequate ventilation at all times. In most circumstances natural ventilation systems are adequate. If ventilation is poor, then the use of a local exhaust ventilation system is recommended.
Personal protection	
Eye and face protection	Safety glasses with side shields OR Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. 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.
Skin protection	See Hand protection below
Hands/feet protection	Wear chemical protective gloves, e.g. PVC. The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
Body protection	See Other protection below
Other protection	Overalls. P.V.C. apron. Barrier cream. Eye wash unit.
Thermal hazards	Not Available

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Mild solvent	Viscosity (cSt)	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 Applicable	Partition coefficient n-octanol / water	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Flash point (°C)	>25C	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	FLAMMABLE	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Molecular weight (g/mol)	Not Available
Lower Explosive Limit(%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	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	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, anesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. 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.
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. 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. The material may accentuate any pre-existing dermatitis condition 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	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

Toxicological effects of ingredients

tetraethyl silicate	Acute toxicity	Oral LD50 (rat) >2500 mg/kg Inhalation LC50 (rat) 10-16 mg/L 4 hr
	Skin corrosion/irritation	Not irritating, rabbit, OECD 404
	Eye damage/irritation	Not irritating, rabbit, OECD 405 / Irritating, human
	Respiratory/skin sensitization	No sensitizing effects, guinea pig, OECD 406
	Germ cell mutagenicity	Not mutagenic
	Carcinogenicity	No evidence that cancer may be caused.
	Reproductive toxicity	Animal testing did not show any effects on fertility.
	STOT (single exposure)	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation
	STOT (repeated exposure)	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
	Aspiration toxicity	No Aspiration toxicity classification

naphtha petroleum, hydrotreated heavy	Acute toxicity	Oral LD50 (rat) >5000 mg/kg Dermal LD50 (rabbit) >5000 mg/kg Inhalation LC50 (rat) >5000 mg/m3 (8hr)
	Skin corrosion/irritation	Mildly irritating to skin with prolonged exposure (Based on test data for structurally similar materials)
	Eye damage/irritation	May cause mild, short-lasting discomfort to eyes (Based on test data for structurally similar materials)
	Respiratory/skin sensitization	Not expected to be a respiratory or skin sensitiser. (Based on test data for structurally similar materials)
	Germ cell mutagenicity	Not expected to be a germ cell mutagen (Based on test data for structurally similar materials)
	Carcinogenicity	Not expected to cause cancer (Based on test data for structurally similar materials)
	Reproductive toxicity	Not expected to be a reproductive toxicant (Based on test data for structurally similar materials)
	STOT (single exposure)	Not expected to cause organ damage from a single exposure. Negligible hazard at ambient/normal handling temperatures. Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects including death.
	STOT (repeated exposure)	Not expected to cause organ damage from prolonged or repeated exposure (Based on test data for structurally similar materials). Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis
	Aspiration toxicity	May be fatal if swallowed and enters airways (Based on physicochemical properties of the material). Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
propylene glycol monomethyl ether acetate	Acute toxicity	Oral ATE >2000 mg/kg Dermal ATE >2000 mg/kg Inhalation ATE >20 mg/L
	Skin corrosion/irritation	Not irritating
	Eye damage/irritation	Not irritating
	Respiratory/skin sensitization	not a respiratory sensitiser. / not a skin sensitiser
	Germ cell mutagenicity	This material has been classified as non-hazardous
	Carcinogenicity	This material has been classified as non-hazardous
	Reproductive toxicity	This material has been classified as non-hazardous
	STOT (single exposure)	No data available
	STOT (repeated exposure)	This material has been classified as non-hazardous
	Aspiration toxicity	This material has been classified as non-hazardous
ethanol	Acute toxicity	Oral LD50 (mouse) 3450 mg/kg Inhalation LC50 (rat) 2000 ppm/10hrs
	Skin corrosion/irritation	Irritating to skin. Prolonged contact may result in drying and defatting of the skin, rash and dermatitis.
	Eye damage/irritation	Irritating to eyes. Exposure may result in lacrimation, irritation, pain and redness
	Respiratory/skin sensitization	No Data Available
	Germ cell mutagenicity	No Data Available
	Carcinogenicity	No Data Available
	Reproductive toxicity	No Data Available
	STOT (single exposure)	No Data Available
	STOT (repeated exposure)	Chronic ingestion may result in cirrhosis of the liver
	Aspiration toxicity	No Data Available

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

	Endpoint	Duration (Hr.)	Species	Value
tetraethyl silicate	LC5	96	Brachydanio rerio,	>245 mg/L
	EC50	48	Daphnia magna,	>75 mg/L
	EC50	72	Pseudokirchnerella subcapitata,	>100 mg/L
	NOEC	72	Pseudokirchnerella subcapitata,	>100 mg/L
	EC50	3	Bacteria - Activated sludge,	>100 mg/L
naphtha petroleum, hydrotreated heavy	EC50(ECx)	96h	Algae or other aquatic plants	64mg/l
	EC50	96h	Algae or other aquatic plants	64mg/l
ethanol, denatured	LC50	96	Fish	42-mg/L
	EC50	48	Crustacea	2-mg/L
	EC50	96	Algae or other aquatic plants	-8.358-26.503mg/L
	EC10	168	Algae or other aquatic plants	1.91-mg/L
	NOEC	2016	Fish	0.000375-mg/L

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
tetraethyl silicate	HIGH	HIGH

Bio accumulative potential

Ingredient	Bioaccumulation
ethanol	LOW (LogKOW = -0.31)
tetraethyl silicate	LOW (LogKOW = 0.0362)

Mobility in soil


Ingredient	Mobility
ethanol	HIGH (KOC = 1)
tetraethyl silicate	LOW (KOC = 8766)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / packaging disposal	Recycle containers whenever possible. Product residues and containers should be disposed of in accordance with local government regulations.
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SECTION 14 TRANSPORT INFORMATION**Labels Required**

					
Marine Pollutant	NO				
HAZCHEM	3Y				
UN number	1993				
Packing group	III				
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.				
Environmental hazard	No relevant data				
Transport hazard class	<table border="1"><tr><td>Class</td><td>3</td></tr><tr><td>Sub risk</td><td>Not applicable</td></tr></table>	Class	3	Sub risk	Not applicable
Class	3				
Sub risk	Not applicable				
Special precautions for user	<table border="1"><tr><td>Special provisions</td><td>223 274</td></tr><tr><td>Limited quantity</td><td>5 L</td></tr></table>	Special provisions	223 274	Limited quantity	5 L
Special provisions	223 274				
Limited quantity	5 L				

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture****NAPHTHA PETROLEUM, ISOPARAFFIN, HYDROTREATED IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

TETRAETHYL SILICATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

ETHANOL, DENATURED IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

SECTION 16 OTHER INFORMATION**Revision Schedule**

Revision Date	18/05/2021
Initial Date	08/11/2016

SDS Version Summary

Version	Issue Date	Sections Updated
2.1	18/05/2021	Sections 2, 3, 11, 12, 15, 16 have been updated or corrected

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources such as the ECHA C&L Chemical Inventory, HSNO (CCID) New Zealand, AICIS and HCIS Australia

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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 Government Industrial Hygienists
STEL;	Short Term Exposure Limit
TEEL;	Temporary Emergency Exposure Limit
IDLH;	Immediate Danger to Life or Health Concentrations
OSF;	Odour Safety Factor
NOAEL;	No Observed Effects Level
TLV;	Threshold Limit Value
LOD;	Limit Of Detection
OTV;	Odour Threshold Value
BCF;	Bio Concentration Factors
BEI;	Biological Exposure Index

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End of SDS