



Infosafe No™	1CH88	Issue Date : April 2016	RE-ISSUED by CHEMSUPP
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Product Name : **METHYLATED SPIRIT**

Classified as hazardous

1. Identification

GHS Product Identifier METHYLATED SPIRIT

Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

Address 38 - 50 Bedford Street GILLMAN
SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use Solvent for resins, fats, fatty acids, inks, oils and hydrocarbons; cleaning preparations; antiseptic; fuel for marine and ultra-light camping (backpacking) stoves; sanding aid; and laboratory reagent.

Other Names

Name	Product Code
METHYLATED SPIRIT 70% TG	MT201
METHYLATED SPIRIT 100% TG	MT020
ALCOHOL 95% Denatured LR	AL047
METHYLATED SPIRIT 95% TG	MT007
Ethyl alcohol denatured, Alcohol denatured, Ethanol denatured, Metho	
ABSOLUTE ALCOHOL 100% Denatured LR	AL048

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Eye Damage/Irritation: Category 2A
Flammable Liquids: Category 2

Signal Word (s) DANGER

Hazard Statement (s) H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Pictogram (s) Flame, Exclamation mark



Precautionary statement – Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response

EYES
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
Skin



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Precautionary statement – Storage
Precautionary statement – Disposal

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
 P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container to an approved waste disposal.

3. Composition/information on ingredients

Chemical	Liquid				
Characterization					
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Ethanol	64-17-5	70-100 %		
	Water	7732-18-5	0-10 %		
	Methanol	67-56-1	0-2.99 %		
	Methyl isobutyl ketone	108-10-1	0-1 %		
	Fluorescein sodium salt	518-47-8	0-0.1 %		
	Denatonium Benzoate	3734-33-6	0-0.1 %		
Other Information	Methyl isobutyl ketone, Fluorescein, Methanol and Denatonium benzoate are denaturants.				

4. First-aid measures

Inhalation If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Skin Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering or irritation occurs seek medical advice.

Eye contact Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

First Aid Facilities Maintain eyewash fountain and safety shower in work area.

Advice to Doctor Treat symptomatically based on judgement of doctor and individual reactions of the patient.

5. Fire-fighting measures

Hazards from Combustion Products Carbon monoxide, carbon dioxide.

Specific Methods Caution: Use of water spray when fighting fire may be inefficient.
 Small fire: Use foam, dry chemical, CO2 or water spray.
 Large fire: Use foam, fog or water spray - Do not use water jets.
 If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers. Alcohol resistant foam is a preferred firefighting medium, however if not available water spray can be used.

Specific hazards arising from the chemical HIGHLY FLAMMABLE: These products have a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Many liquids are lighter than water. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.

Hazchem Code •2YE

Precautions in connection with Fire SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

6. Accidental release measures

Spills & Disposal ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed.
 Do not touch or walk through spilled material.
 Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
 Vapour-suppressing foam may be used to control vapours.



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Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds.
SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

Personal**Precautions**

Evacuate the area of all non-essential personnel. Remove ignition sources

Personal Protection

Wear protective clothing specified for normal operations (see Section 8)

7. Handling and storage**Precautions for Safe**

Keep containers tightly sealed when not in use. Protect against physical damage. Keep away from incompatibles such as oxidizing agents, acids, alkalis. Keep away from heat and all sources of ignition - Do not smoke. Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture. Containers should be bonded and grounded for transfers to avoid static sparks. Use non-sparking type tools and equipment, including explosion proof ventilation. All electrical equipment must be flameproofed. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Ensure good ventilation/exhaustion at the workplace. DO NOT ingest. Do not breathe gas, fumes, vapour or spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Wash thoroughly after handling. Contaminated clothing should be removed and washed before re-use.

Handling**Conditions for safe storage, including any incompatibilities**

Protect against physical damage. Store in a tightly closed container, in a cool, dry, well-ventilated area away from incompatible substances (oxidizing agents, acids). Keep well closed and protected from direct sunlight and moisture. Keep away from heat, sparks, flames and all sources of ignition - Do not smoke. Containers should be bonded and grounded for transfers to avoid static sparks. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. Outside or detached storage is preferred. Flammable materials should be stored in a separate safety storage cabinet or room. Store small containers in suitable flammable liquid storage cabinets when not in use. Larger drums (200l) must be kept in purpose-built stores.

Corrosiveness

Ethanol is not corrosive to cast iron, steel stainless steel, copper and its alloys, nickel and its alloys and aluminium. Ethanol may react with hot aluminium.

Storage Regulations

Refer Australian Standard AS 1940-2004 'The storage and handling of flammable and combustible liquids'.

Storage**Temperatures**

Store at room temperature (15 to 25°C recommended).

8. Exposure controls/personal protection**Occupational exposure limit values**

<u>Name</u>	STEL		TWA		<u>Footnote</u>
	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	
Ethanol			1880	1000	
Methanol	328	250	262	200	
Methyl isobutyl ketone	307	75	205	50	

Other Exposure Information

A time weighted average (TWA) has been established for Ethyl alcohol (Safe Work Australia) of 1,880 mg/m³, (1,000 ppm), for Methyl alcohol (Safe Work Australia) of 262 mg/m³, (200 ppm), and for Methyl isobutyl ketone (Safe Work Australia) of 205 mg/m³, (50 ppm). The corresponding STEL level for Methyl alcohol is 328 mg/m³, (250 ppm), and for Methyl isobutyl ketone is 307 mg/m³, (75 ppm). The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate**engineering controls**

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.



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Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Flame retardant protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Pale green or clear volatile liquid.
Odour	Ethereal vinous odour.
Melting Point	-117.3 °C (ethanol)
Boiling Point	78.3 °C (ethanol)
Solubility in Water	Miscible.
Solubility in Organic Solvents	Soluble in all proportions with ethers, acetone, chloroform, ketones, hydrocarbons, acids, esters, glycols, other alcohols and many other organic solvents.
Specific Gravity	0.79 @ 20 °C/4 °C (ethanol)
pH	Ethanol is a very weak acid.
Vapour Pressure	5.9 kPa (44.3 mm Hg) at 20 °C (ethanol)
Vapour Density (Air=1)	1.5 (ethanol)
Evaporation Rate	2.4 (n-butyl acetate = 1); 8.3 (diethyl ether = 1) (ethanol)
Odour Threshold	Reported values vary widely; 49-716 ppm (geometric mean: 180 ppm) (detection); 100 ppm (recognition) (ethanol)
Volatile Component	100%
Partition Coefficient: n-octanol/water	Log P(oct) = -0.32 (measured) (ethanol)
Surface Tension	22.4 mN/m (22.4 dynes/cm) at 20 °C (ethanol)
Flash Point	13 °C (closed cup) (100% ethanol)
Flammability	HIGHLY FLAMMABLE. Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity. Ensure adequate ventilation to prevent an explosive vapour-air mixture. Vapours will travel considerable distances to sources of ignition.
Auto-Ignition Temperature	363 °C (100% ethanol); 423-425 °C (100% ethanol)
Flammable Limits - Lower	3.3% (ethanol)
Flammable Limits - Upper	19% (ethanol)
Explosion Properties	Slightly explosive in presence of open flames and sparks, of acids. Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in



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reaction with the following compound : ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). Sodium Hydrazide + alcohol can produce an explosion. Alcohols should not be mixed with mercuric nitrate, as explosive mercuric fulminate may be formed. May form explosive mixture with manganese perchlorate + 2,2-dimethoxypropane. Addition of alcohols to highly concentrate hydrogen peroxide forms powerful explosives. Explodes on contact with calcium hypochlorite. Vapour may explode if ignited in an enclosed area. Containers may explode when heated or involved in a fire. (Ethyl alcohol 200 Proof)

Molecular Weight 46.07
Kinematic Viscosity 1.48-1.53 mm²/s (1.48-1.53 centistokes) at 20 °C (calculated) (ethanol)
Dynamic Viscosity 1.17-1.21 mPa.s (1.17-1.21 centipoises) at 20 °C
Saturated Vapour Concentration 58300 ppm (5.8%) at 20 °C (calculated)

10. Stability and reactivity**Chemical Stability** Stable under ordinary conditions of use and storage.**Conditions to Avoid** Heat, flames, ignition sources, moisture and incompatibles.**Incompatible Materials** Strong oxidizing agents (e.g. chromium trioxide, chlorine oxides, nitrosyl perchlorate, nitric acid and permanganates); hydrogen peroxide; perchloric acid, metal perchlorates (e.g. silver perchlorate), mercuric nitrate, silver nitrate, silver and nitric acid, or silver oxide and aqueous ammonia; alkali metals (e.g. sodium or potassium); bromine pentafluoride, disulfuryl difluoride or bromides; phosphorus (III) oxide; potassium tert-butoxide; acids, acid anhydrides, or acid chlorides. Oxides of carbon.**Hazardous Decomposition Products****Possibility of hazardous reactions** Strong oxidizing agents (e.g. chromium trioxide, chlorine oxides, nitrosyl perchlorate, nitric acid and permanganates) - may react violently or explosively. Increased risk of fire and explosion; hydrogen peroxide - mixtures of concentrated peroxide and ethanol can be detonated by shock or heat; perchloric acid, metal perchlorates (e.g. silver perchlorate), mercuric nitrate, silver nitrate, silver and nitric acid, or silver oxide and aqueous ammonia - may form shock-sensitive or explosive compounds; alkali metals (e.g. sodium or potassium) - reaction may be explosive due to the formation of hydrogen-air mixtures, unless air is excluded; bromine pentafluoride, disulfuryl difluoride or bromides - reaction may be vigorous or violent with risk of fire and explosion; phosphorus (III) oxide - ignites readily at normal temperatures; potassium tert-butoxide - contact of solid butoxide with ethanol vapour caused ignition; acids, acid anhydrides, or acid chlorides - reaction may be vigorous or violent, with the evolution of heat.**Hazardous Polymerization** Does not occur.**11. Toxicological Information****Toxicology Information** No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. If mishandled or overexposed to this product the following symptom or effects may occur.**Acute Toxicity - Oral** LD50 (rat): 7060 mg/kg (ethanol).**Ingestion** Cause headaches, gastritis, intoxication, blindness and, in acute cases, death.**Inhalation** Exposure may cause irritation to the mucous membranes of the upper respiratory tract. Prolonged exposures to high concentrations may cause drowsiness, loss of appetite and inability to concentrate.**Skin** Causes skin irritation, cracking or flaking due to dehydration and defatting action.**Eye** Can cause eye irritation. Splashes may cause temporary pain and blurred vision.**Skin Sensitisation** Ethanol had no effect in the mouse ear sensitization assay and failed to produce sensitization in five different tests using guinea pigs.**Carcinogenicity** Not listed in the IARC Monographs.**Reproductive Toxicity** Ethanol has been linked to birth defects in humans.**Chronic Effects** Prolonged skin contact causes drying and cracking of skin. May affect the nervous system. May affect liver, blood, reproductive system. Continued ingestion of small amounts could result in blindness.



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Serious eye damage/irritation Concentrated ethanol is a moderate to severe eye irritant.**Mutagenicity** No evidence of mutagenic properties.**Skin corrosion/irritation** Concentrated ethanol is a mild skin irritant.**12. Ecological information****Ecological Information** No ecological problems are to be expected when the product is handled and used with due care and attention.**Mobility** Distribution: Log P(oct) = -0.32 (measured).**Environmental Fate** Ethanol: In water, will volatilize and probably degrade.**Biological Properties** Not expected to bioconcentrate in fish.**Acute Toxicity - Fish** LC50 (Rainbow trout): = 12900-15300 mg/L/ 96 Hr;
LC50 (Rainbow trout): = 11200 mg/L/ 24 Hr.**Acute Toxicity - Bacteria** EC50 (Phytobacterium phosphoreum): 34900 mg/L/ 5-30 min.**13. Disposal considerations****Disposal Considerations** Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.**14. Transport information****Transport Information** Dangerous Goods of Class 3 Flammable Liquids, are incompatible in a placard load with any of the following: - Class 1, Class 2.1, if both the Class 3 and Class 2.1, dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane and Class 7.**U.N. Number** 1170**UN proper shipping name** ETHANOL (ETHYL ALCOHOL)**Transport hazard class(es)** 3**Hazchem Code** •2YE**Packaging Method** 3.8.3RT1**Packing Group** II**EPG Number** 3A1**IERG Number** 14**15. Regulatory information****Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS).**Poisons Schedule** S5**Packaging & Labelling** As required by the ADG Code and the Standard for the Uniform Scheduling of Drugs and Poisons.**16. Other Information****Literature References** 'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.
Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Substances Information System, 2005'.



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Safety Data Sheet

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**Contact
Person/Point**

Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

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**Empirical Formula &
Structural Formula**

Empirical Formula: C₂H₆O

Structural Formula: C₂H₅OH

...End Of MSDS...

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