

1. IDENTIFICATION

Product Name	Methylated Spirits Specialty Grade F6
Other Names	Denatured Alcohol; Ethyl Alcohol; Metylated Spirits
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	No Data Available
Chemical Name	Methylated Spirits Specialty Grade F6
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details


For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 5

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
Hazard Categories	Flammable Liquids - Category 2 Serious Eye Damage/Irritation - Category 2A		
Pictograms			
Signal Word	Danger		
Hazard Statements	H225	Highly flammable liquid and vapour.	
	H319	Causes serious eye irritation.	
Precautionary Statements	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 contacted areas thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
	Response	P303 + P361 + P353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
		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.
		P370 + P378	In case of fire: Use water for extinction.
	Storage	P403 + P235	Store in a well-ventilated place. Keep cool.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)		
---------------------------------------	---	--	--

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	3.1B	Flammable liquid - high hazard
	Health Hazards	6.4A	Substances that are irritating to the eye

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ethanol	No Data Available	64-17-5	>95.00 %
Denatonium Benzoate	No Data Available	3734-33-6	<=0.0016 %
Water	No Data Available	7732-18-5	BALANCE %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Wash mouth out with water. Seek medical attention.
Eye	Immediately hold eyes open and wash continuously with water for at least 15 minutes. Transport to hospital or doctor.
Skin	Immediately remove all contaminated clothing, including footwear after wetting with water if available. Wash affected areas thoroughly with water, and soap if available. Seek medical attention. BURNS: Immerse affected area in cold water for 10-15 minutes. Bandage lightly with sterile dressing. Treat for shock if required. Transport to hospital if required.
Inhaled	Remove to fresh air, lay down and rest. If not breathing, apply resuscitation. Keep warm. Transport to hospital or doctor.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Flame-proof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed.
Flammability Conditions	Highly flammable. Vapours may form explosive mixtures with air. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches / tools, heaters, naked lights, pilot lights, mobile phones etc when handling. Earth containers when dispensing fluids.
Extinguishing Media	Water fog or foam. Use waterfog to cool intact containers and nearby storage areas.
Fire and Explosion Hazard	Highly flammable - explosive vapour. Evacuate area and contact emergency services. Toxic gases may be evolved when heated. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use water fog to cool intact containers and nearby storage areas.
Hazardous Products of Combustion	May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	13 °C
Lower Explosion Limit	3.30 %
Upper Explosion Limit	19.05 %
Auto Ignition Temperature	No Data Available
Hazchem Code	•2YE

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Shut off all possible sources of ignition.
-----------------------------------	--

Avoid accidents, clean up immediately.
Increase ventilation.
Avoid walking through spilled product as it is slippery when spilled.
Use clean, non-sparking tools and equipment.

Clean Up Procedures

If spilt (bulk), contact emergency services where appropriate. Wear splash-proof goggles, nitrile gloves, a Type A (Organic Vapour) respirator and coveralls. Ventilate and clear area of all unprotected personnel. Eliminate potential ignition sources. Absorb spill with sand or similar, collect and place in sealable containers for disposal.

Containment

Stop leak if safe to do so. Isolate the area.
Prevent contamination of drains or waterways, absorb run off with sand or similar.

Environmental Precautionary Measures

Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.

Evacuation Criteria

Evacuate all unnecessary personnel.

Personal Precautionary Measures

Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling

Ensure an eye bath and safety shower are available and ready for use.
Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling.
Take precautionary measures against static discharges by bonding and grounding equipment.
Avoid contact with eyes, skin and clothing.
Do not inhale product vapours.
Avoid prolonged or repeated exposure.
Before use, carefully read the product label.
Prohibit eating, drinking and smoking in contaminated areas (eg. If container is damaged).

Storage

Store in cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, heat or ignition sources, foodstuffs, out of direct sunlight and out of the reach of children.
Keep containers tightly sealed when not in use.
Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.
Protect against physical damage.
Ground and bond storage containers.
Store away from incompatible materials as listed in section 10.
Large storage areas should have appropriate fire protection.
This product has a UN Classification of 1170 and a Dangerous Goods Class 3 (flammable) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container

Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC);
Product Name: Ethyl alcohol CAS number: 64-17-5 TWA = 1000ppm (1880mg/m3)

The following information has also been provided:

ETHANOL:

ES - TWA: 1000ppm (1880mg/m3)

WES-TWA: 1000ppm (1880mg/m3)

BITREX ANHYDROUS GRANULES:

TWA: 0.1mg/m3 (Manufacturer)

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

Engineering Measures

Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical explosion proof extraction ventilation is recommended. Flammable / explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

Personal Protection Equipment

RESPIRATOR: Wear an approved respirator with suitable filter for organic gases and vapours (Type A) if engineering controls are inadequate. At high levels wear Self Contained Breathing apparatus (SCBA) or an Air-line respirator. (AS1715/1716).

EYES: Chemical splash proof goggles (AS1336/1337).

HANDS: Nitrile or neoprene rubber gloves (AS2161).

CLOTHING: Flame-retardant coveralls and anti-static footwear (AS3765/2210).

Work Hygienic Practices No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	No Data Available
Colour	Clear
pH	No Data Available
Vapour Pressure	8kPa (Ethanol) (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	78 (Ethanol) °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Complete °C
Specific Gravity	0.789 (Ethanol)
Flash Point	13 °C
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	Vapours are heavier than air and may travel some distance to an ignition source and flash back.
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	Vapours may form explosive mixtures with air.
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Flammable liquid.
Chemical Stability	Product is stable under directed conditions of use, storage and temperature.
Conditions to Avoid	Heat and ignitions sources.
Materials to Avoid	Incompatible with oxidising agents (eg. Hypochlorites, peroxides), acids (sulphuric acid), strong alkalis (eg. Hydroxides).
Hazardous Decomposition Products	May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.
Hazardous Polymerisation	No Data Available

11. TOXICOLOGICAL INFORMATION

General Information	Ethanol: LC50 (Inhalation): 2000ppm/10hours (rat). LD50 (Ingestion): 3450mg/kg (mouse). Bitrex: LD50 (Ingestion): 508mg/kg (rabbit) HEALTH HAZARD SUMMARY: Low to moderate toxicity - irritant. This product has the potential to cause adverse health effects with chronic over exposure. Use safe work practices to avoid eye or skin contact and over exposure via inhalation. Chronic ingestion may result in cirrhosis of the liver. Over exposure may cause central nervous system depression.
SkinIrritant	Irritant. Prolonged contact may result in drying and defatting of the skin, rash and dermatitis. Toxic effects may result from skin absorption.
EyeIrritant	Irritant. Exposure may result in lacrimation, irritation, pain and redness.
Ingestion	Low toxicity. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain, diarrhoea, headache, dizziness and drowsiness with large doses. Liver damage may occur with high level of chronic ingestion. Chronic ingestion may result in cirrhosis of the liver.
Inhalation	Irritant. Inhalation may cause irritation to the respiratory system, nose and throat irritation, coughing and headache. Over exposure may result in nausea, dizziness and drowsiness. Over exposure may cause central nervous system depression
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Ethanol: If spilled on soil, ethanol will either evaporate or leach into the ground due to the relatively high vapour pressure and low absorption in soil. It will biodegrade, probably to acetic acid and formaldehyde. Ethanol will volatilise from water and biodegrade, and is not expected to bioconcentrate. It will photodegrade in air with a half-life ranging from hours (polluted air) to days (clean air). Fish toxicity: LC0 (Golden ide) >1000mg/L/48hrs. Invertebrate toxicity: EC50 (Daphnia magna) is >1000mg/L/24hrs. Bitrex: Fish toxicity: LC50 > 1000 mg/L/96 hours (Rainbow trout). LC50 400 mg/L/96 hours (Shrimp). EC50 13 mg/L/48 hours (Daphnia magna). The manufacturer states that this product is harmful to the environment at concentrations greater than 5 mg/L. This product will not bioaccumulate. Harmful to aquatic organisms. May cause long term adverse effects in the aquatic environment.
Persistence/Degradability	No information available on persistence/degradability for this product.
Mobility	No information available on mobility for this product.
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	Do NOT let product reach waterways, drains and sewers. No Data Available

Environmental Impact

13. DISPOSAL CONSIDERATIONS

General Information

Dispose of in accordance with all local, state and federal regulations.
All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

Special Precautions for Land Fill Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1170
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)

ADR

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1170
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1170
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	127 Flammable Liquids (Polar / Water-Miscible)
UN Number	1170
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1170
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available
EMS	FE,SD
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1170
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
---------------------------------------	---

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	5

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR001144

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Not Determined
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes MESPSP3900, MESPSP4000, MESPSP4001, MESPSP4002, MESPSP4100, MESPSP4110, MESPSP4300, MESPSP4400, MESPSP4410, MESPSP4500

Revision 2

Revision Date 21 Oct 2015

Reason for Issue SDS updated

Key/Legend

- < Less Than
- > Greater Than
- AICS** Australian Inventory of Chemical Substances
- atm** Atmosphere
- CAS** Chemical Abstracts Service (Registry Number)
- cm²** Square Centimetres
- CO₂** Carbon Dioxide
- COD** Chemical Oxygen Demand
- deg C (°C)** Degrees Celcius
- EPA (New Zealand)** Environmental Protection Authority of New Zealand
- deg F (°F)** Degrees Farenheit
- g** Grams
- g/cm³** Grams per Cubic Centimetre
- g/l** Grams per Litre
- HSNO** Hazardous Substance and New Organism
- IDLH** Immediately Dangerous to Life and Health
- immiscible** Liquids are insoluable in each other.
- inHg** Inch of Mercury
- inH₂O** Inch of Water
- K** Kelvin

kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight