

1. IDENTIFICATION

Product Name	Methylated Spirits F4 Blends
Other Names	Sms F4 Blends
Uses	Various
Chemical Family	No Data Available
Chemical Formula	C2H6O
Chemical Name	Methylated Spirits F4 Blends
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) Not scheduled

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 hands and contaminated body 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)		
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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 %
Tertiary Butyl Alcohol	No Data Available	75-65-0	0.25 %
Water	No Data Available	7732-18-5	BALANCE %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Do not induce vomiting. Wash mouth out with water and then give water to drink. 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. 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	Clear fire area of all non-emergency personnel. 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. Remain upwind and notify those downwind of hazard. Move fire exposed containers from fire area if it can be done without risk. 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 (see above) 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	11 - 13 °C
Lower Explosion Limit	3.3 %
Upper Explosion Limit	19.0 %
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 according to local authority guidelines.
Containment	Stop leak if safe to do so. Isolate the area.
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.
Storage	Store in cool dry, well-ventilated area, away from direct sunlight and other sources of heat. Ensure containers are properly labelled, protected from any physical damage and sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Ground and bond storage containers. Store away from incompatible materials as listed in section 10. 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); Ethanol: CAS number 64-17-5 TWA = 1000ppm (1880mg/m ³) tert-Butanol 2-Methylpropan-2-ol: CAS number 75-65-0 TWA = 100ppm (303mg/m ³) STEL = 150ppm (455mg/m ³) NOTE: 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.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Use an explosion proof exhaust ventilation system. 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 goggles to prevent splashing in the eyes (AS1336/1337). HANDS: Nitrile or neoprene (AS2161). CLOTHING: Flame-retardant coveralls and anti-static footwear (AS3765/2210).
Special Hazards Precautions	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.
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid, free of any foreign matter
Odour	No Data Available
Colour	Clear
pH	No Data Available
Vapour Pressure	5.9 kPa (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	78 °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Complete
Specific Gravity	0.79g/mL
Flash Point	11 - 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	No Data Available
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 and vapour
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	<p>Ethanol: LC50 (Inhalation): 2000ppm/10hours (rat) LD50 (Ingestion): 3450mg/kg (mouse)</p> <p>Tertiary Butyl Alcohol: LC50 (Inhalation): >10000ppm (rat) LD50 (Ingestion): 3500mg/kg (rat) LD50 (Ingestion): 3559mg/kg (rabbit)</p> <p>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 shin contact and over exposure via inhalation. Chronic ingestion may result in cirrhosis of the liver. Over exposure may cause central nervous system depression.</p>
EyeIrritant	Irritating to eyes. 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. Over exposure may cause central nervous system depression.
Inhalation	Irritating to respiratory system. Inhalation may cause irritation to the respiratory system, nose and throat irritation, coughing and headache. Over exposure may result in nausea, dizziness and drowsiness.
SkinIrritant	Irritating to skin. Prolonged contact may result in drying and defatting of the skin, rash and dermatitis. Toxic effects may result from skin absorption.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	<p>Fish toxicity: LC0 (Golden ide) >1000mg/L/48hrs. Invertebrate toxicity: EC50 (Daphnia magna) is >1000mg/L/24hrs.</p>
Persistence/Degradability	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).
Mobility	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.
Environmental Fate	Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.
Bioaccumulation Potential	No Data Available
Environmental Impact	No Data Available

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. This material may be suitable for approved landfill.

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	3YE
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	3YE
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	3YE
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)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR001144
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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)	Listed
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	MESPIR3040, MESPIR3050, MESPIR3080, MESPIR3090, MESPIR3210, MESPSP1900, MESPSP2000, MESPSP2001, MESPSP2500, MESPSP2501, MESPSP2502, MESPSP2505, MESPSP2600, MESPSP2601, MESPSP6000, MESPSP6100
Revision	3
Revision Date	13 Jan 2015
Reason for Issue	Updated SDS
Key/Legend	<p>< 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</p>

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