

<b>MATERIALS SAFETY DATA SHEET</b> <b>(MSDS)</b> <i>Coloured Methylated Spirits</i>	MSDS Number	NCP/B/1
	Version number	Version 5.0
	Date issued	13 <sup>th</sup> July 2018
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### COMPANY DETAILS

<b>Name</b> :	NCP Alcohols	<b>Emergency telephone No.:</b>	+27 (31) 579 2004
<b>Address</b> :	121 Sea Cow lake Road, Durban, 4001, South Africa	<b>Telephone</b> :	+27 (31) 560 1111
		<b>Fax</b> :	+27 (31) 579 1541

### 1. Product and Company Identification

(Page 1 may be used as an emergency safety data sheet)

<b>Trade name</b> :	Coloured Methylated Spirits	<b>Chemical abstract No.</b> :	64-17-5 (Ethanol)
<b>Chemical Family</b> :	Aliphatic Alcohol	<b>Molecular Mass</b> :	46.07
<b>Chemical name</b> :	Denatured Ethyl Alcohol	<b>NIOSH No.</b> :	KQ 6300000 (Ethanol)
<b>Hazchem Code</b> :	3(Y)E	<b>UN No.</b> :	1987

### 2. Composition:

<b>Hazardous components</b> :	Ethyl Alcohol 91,4 % v/v, Butanol 3,5 % v/v, Benzine 1,5 % v/v, Denatonium Benzoate and Methyl violet dye.
<b>EC classification</b> :	Not available.
<b>R Phrases</b> :	R11.

### 3. Hazards Identification:

**Main Hazard** : Moderately irritating to the eye. Exposure to liquid, vapours, fumes or mists may cause irritation. Direct contact may cause irritation, pain, corneal inflammation and possible corneal damage.

**Flammability** : Flash Point 12°C. Extremely flammable (R11).

**Chemical Hazard** : Methylated spirits is a flammable liquid whose vapours can form ignitable and explosive mixtures with air at normal room temperatures. Thus, an aqueous mixture containing 30% ethanol can produce a flammable mixture of vapour and air at 29°C, and even one containing only 5% alcohol can produce a flammable mixture at 62°C<sup>1</sup>. Ethanol reacts vigorously with a wide range of oxidising materials and other chemicals<sup>2</sup>. e.g. Disulphuryl difluoride, silver nitrate, bromine pentafluoride, potassium perchlorate, nitrosyl perchlorate, chromyl chloride, chloryl perchloride, uranyl perchlorite, chromium trioxide, fluorine nitrate, dioxygen difluoride, uranium hexafluoride, iodine heptafluoride, tetrachlorosilane, permanganic acid, nitric acid [the nitric acid fizz reaction used formerly for cleaning laboratory glassware should not be used (3,5)], hydrogen peroxide, peroxodisulphuric acid, potassium dioxide, sodium peroxide, potassium permanganate, ruthenium (VIII) oxide, platinum, potassium (6), potassium *tert*-butoxide, silver oxide, and sodium (7).

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<u>Biological Hazard</u>	: Ethanol is rapidly oxidised in the body to acetaldehyde, then to acetate, and finally to carbon dioxide and water; un-oxidised alcohol is excreted in the urine and expired in the air (8,9).
<u>Reproductive hazard</u>	: Some evidence for foetotoxicity (26-28) and teratogenicity (29) has been observed in experimental animals treated with high doses of ethanol during gestation. Alcohol may induce spontaneous abortions.
<u>Health effects – skin</u>	: Repeated or prolonged contact may result in defatting, redness, itching, inflammation, cracking and possible secondary infection. Repeated skin contact may result in allergic skin reaction in a very small proportion of individuals.
<u>Health effects – ingestion</u>	: Large doses lead to alcohol poisoning while repeated ingestion can lead to alcoholism. Alcohol abuse and dependence can have a profound effect on work performance and tendency to accidents at work (see 11-13), for discussions of alcoholism, including its relation to occupational health). The presence of denaturants, eg. butanol and benzene in methylated spirits greatly increases the toxicity on ingestion. Ethanol drinking is also suspected of increasing the toxic effects of other chemicals encountered in the laboratory and the workplace by inhibition of their metabolism or excretion (14); eg. 1,1,1-trichloroethane (15), xylene, trichloroethylene and dimethylformamide (16), benzene (17) and lead (18, 19). May cause harmful central nervous system effects. Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death. Severe acute intoxication may cause Hypoglycemia, hypothermia and extensor rigidity.
<u>Health effects – inhalation</u>	: The effects of inhalation are not likely to be serious under reasonable laboratory or industrial use. There is no evidence that repeated exposure to ethanol vapour results in cirrhosis of the liver. Prolonged inhalation of concentrations (over 5000 ppm), besides irritation of eyes and upper respiratory tract, may cause central nervous system symptoms similar to those listed under "Ingestion" (see Ingestion section).
<u>Carcinogenicity</u>	: There is no evidence of carcinogenicity due to ethanol itself, although some studies (20,21) have shown an excess incidence of laryngeal cancer over the expected from exposure to synthetic alcohol, with diethyl sulphate probably being the causative agent.
<u>Mutagenicity</u>	: Ethanol has been found to be non-mutagenic in the <i>Salmonella</i> microsome test (22), but some transient mutagenic changes have been observed in male, but not female, mice treated with rather large doses (23-25).
<u>Neurotoxicity</u>	: Not available

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#### 4. First – aid Measures:

<u>Product in eye</u>	: Flush immediately with water or neutral saline solution for at least 15 minutes. Seek medical attention.
<u>Product on skin</u>	: Remove contaminated clothing and rinse contaminated area with soap and water. If skin irritation persists seek medical attention.
<u>Product ingested</u>	: If victim is conscious, give 1-3 glasses of water or milk to dilute stomach contents. If spontaneous vomiting occurs, or when vomiting is induced, monitor for breathing difficulty. Do not make an unconscious or semi-conscious person vomit. Keep affected person warm and at rest. Get medical attention for substantial ingestions and/or gastrointestinal symptoms.
<u>Product inhaled</u>	: Remove the victim to fresh air. If not breathing, ensure open airway and institute cardiopulmonary resuscitation (CPR). If breathing is weak, irregular or has stopped apply artificial respiration. Oxygen may be beneficial. Keep affected person warm and at rest. Get immediate medical attention.

#### 5. Fire-fighting Measures:

<u>Extinguishing media</u>	: Use dry chemical, alcohol foam or carbon dioxide to extinguish fire. Water may be ineffective but should be used to cool fire-exposed containers, structures and to protect personnel. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapour and to protect personnel attempting to stop a leak. Use water to dilute spills and to flush them away from sources of ignition. Do not flush down public sewers or other drainage systems.
<u>Special hazards</u>	: Flammable : Flash point 12°C.  Flammability Limits : 3,3-19%.  Dangerous when exposed to heat or flame. Vapours form flammable or explosive mixtures with air at room temperature. Vapour or gas may spread to distant ignition sources and flash back. Run-off to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Vapours may concentrate in confined areas. Irritating or toxic substances may be emitted upon thermal decomposition.
<u>Protective clothing</u>	: Exposed fire fighters should wear approved self-contained breathing apparatus with full face mask and full protective equipment.

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## 6. Accidental Release Measures:

Personal precautions : Protective clothing should be worn to prevent excessive skin contact.

Environmental precautions : Prevent liquid entering sewers. Do not allow to enter surface waters, storm drains, etc.

Small spills : Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. Eliminate all sources of ignition and wear protective clothing. Absorb small spills onto paper and remove to a safe area for burning or burying. Flush the contaminated area with plenty of water.

Large spills : Stop leak if you can do it without risk. Contact your local fire department. Eliminate all sources of ignition and static, restrict access to area until completion of clean-up procedure. Wear adequate protective equipment, use self-contained breathing apparatus in confined poorly-ventilated areas. Large quantities should be absorbed on to sand or vermiculite and removed to a safe area for burning or burying. Flush the contaminated area with plenty of water. Incineration is the recommended method of disposal.

## 7. Handling and Storage:

Suitable material : Methylated Spirits is not corrosive to metals and may be stored in stainless steel, mild steel or aluminium containers.

Handling/ storage precautions : Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Store in approved flammable liquid storage containers. Keep containers tightly closed as this material readily absorbs moisture. Store away from incompatible materials. Store in a cool, dry well-ventilated area away from sparks, flames and other sources of ignition. Eliminate of all sources of static electricity. Use non-sparking electrical and ventilation systems.

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### 8. Exposure Control / Personal Protection:

Occupational exposure limits :

Country	8 Hour - TWA Hygiene Limit	STEL
HSE	1000ppm	(1900 mg/m <sup>3</sup> ) (Ethanol)
MAK	1000ppm	(1880 mg/m <sup>3</sup> ) (Ethanol)
ACGIH	1000ppm	(1880 mg/m <sup>3</sup> ) (Ethanol)

Engineering control measures :

Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures. Respiratory protection may be needed for non-routine or emergency situations.

Personal protection

– respiratory :

If exposure limits are exceeded or if irritation is experienced, an approved respirator for organic vapours is generally acceptable. For high concentrations and for oxygen-deficient atmospheres, use an approved air-supplied respirator. Full respiratory protection should be readily available in case of spillage.

Personal protection – hand :

Rubber or neoprene gloves are recommended.

Personal protection – eye :

Prevent eye contact with this material. Wear chemical tight goggles. Provide an eyewash station immediately accessible to the work area.

Personal protection – skin :

Avoid skin contact. When working with this substance, wear appropriate chemical protective gloves. Depending upon conditions of use, additional protection may be necessary such as face shield, apron, etc.

Other protection :

None identified

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### 9. Physical and Chemical Properties:

Appearance	: Purple coloured, volatile liquid.
Odour	: Characteristic odour.
pH	: Not applicable.
Boiling point	: 77-100°C.
Melting point	: <-100°C.
Flash point	: 12°C.
Flammability	: 3,3 - 19% v/v.
Autoflammability	: 363°C (Ethanol).
Explosive properties	: Vapours can form explosive mixtures with air. All sources of ignition or static must be excluded.
Oxidizing properties	: None.
Vapour pressure	: 59 mm Hg at 20°C.
Density	: 815-819 kg/m <sup>3</sup> at 25°C.
Solubility - water	: Miscible with water in all proportions.
Solubility – solvent:	: Miscible with ether, methanol, chloroform and acetone.
Solubility – coefficient	: Not available

### 10. Stability and Reactivity:

<u>Condition to avoid</u>	: Overheating, flames, sources of ignition or static electricity. Oxidising agents. Vapour/air mixtures are explosive.
<u>Incompatible materials:</u>	: See section 3 (Chemical Hazards).
<u>Hazardous decomposition products</u>	: Incomplete combustion may produce carbon dioxide and carbon monoxide.

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### 11. Toxicological Information:

Acute toxicity	: See section 3.
Skin and eye contact	: See section 3.
Chronic toxicity	: See section 3.
Carcinogenicity	: See section 3.
Mutagenicity	: See section 3.
Neurotoxicity	: See section 3.
Reproductive hazards	: See section 3.

### 12. Ecological Information:

Aquatic toxicity – fish	: No Data Available.
Aquatic toxicity – daphnia	: No Data Available.
Aquatic toxicity – algae	: No Data Available.
Biodegradability	: No Data Available.
Bio – accumulation	: No Data Available.
Mobility	: No Data Available.
German wtk	: No Data Available.

### 13. Disposal Considerations:

Disposal methods	: Only under conditions approved by local authorities. See also Section 6.
Disposal of packaging	: Empty containers may contain flammable and hazardous residues. Always obey hazard warnings.

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#### 14. Transport Information:

UN No	: 1987
Substance Identity No	: <i>UN 1987</i>
ADR/RID class	: 3
ADR/RID item No	: Not Available.
ADR/RID hazard identity No	: 33
IMDG – shipping name	: <i>Alcohols, N.O.S</i>
IMDG – class	: 3
IMDG – packaging group	: II/III (Ethanol).
IMDG – marine pollutant	: Not Available.
IMDG – EMS No	: <i>F-E, S-D.</i>
IMDG – MFAG table No	: 3074 (Ethanol).
IATA – shipping name	: Ethanol solutions
IATA – class	: 3 (Ethanol)
IATA – subsidiary risk(s)	: Flammable liquid
ADNR – class	: 3
UK – description	: Not Available.
UK- emergency action class	: Not Available.
UK – classification	: Not Available.
Tremcard No	: <i>UN 1987</i>

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### 15. Regulatory Information:

EEC hazard classification	: Not Available.
Risk phases	: R11.
Safety phases	: S7, S16.
National legislation	: Hazardous Substances Act 15 of 1973 and Regulation Occupational Health and Safety Act 85 of 1993 ( <i>Hazardous Chemical Substances Regulations</i> )
International Legislation	: <i>IATA Dangerous Goods Regulation (DGR) 57<sup>th</sup> Edition 2016</i> <i>IMDG Code, International Maritime Dangerous Goods Code, 2008 Edition, Volume 1 and 2</i>

### 16. Sources of Information

1. Chemical Safety Data Sheets Volume 1 - Royal Society of Chemistry Information Services (Numbers in parenthesis refer to this article, see below).
2. Hazardous Chemicals Data Book, Environmental Health Review No. 4 Edited by G. Weiss.
3. Canadian Centre for Occupational Health and Safety. Record No. 516022

### 17. Other Information

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall NCP Alcohols be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if NCP Alcohols has been advised of the possibility of such damages.*

### 18. Change Details

Revision 2.0	- Changed MSDS format
Revision 3.0	- MSDS Reviewed - Format Change
Revision 4.0	- Changed company fax number - Updated transport information to current - Updated regulatory information to include reference to IATA Dangerous Goods Regulations and IMDG Code.
Revision 5.0	- Document reviewed. No changes made.

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### 19. References

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