



TAG SOLVENT PRODUCTS (PTY) LTD.

MATERIAL SAFETY DATA SHEET COLOURED METHS

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common name	: COLOURED METHS	
Supplier	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600	
Synonym	: Not available.	
Trade name	: Coloured meths	
Material uses	: Used in domestic burners as a cleaning agent.	

2 COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS#	% By Weight	Exposure Limits
1. Ethanol	64-17-5	87-90	TWA: 1880mg/m ³ from ACGIH (USA) TWA: 1000ppm from OSHA (USA) TWA: 1900 mg/m ³ from OSHA (USA) TWA: 1900ppm from OSHA (USA)
2. Isopropyl alcohol	67-63-0	5-8	TWA: 400ppm from OSHA [USA, 1992], Period: 8 hours TWA: 980ppm from OSHA [USA, 1976], Period: 8 hours STEL: 500ppm from OSHA [USA, 1976], Periods: 15 minutes TWA: 400ppm from ACGIH [USA, 1999], Period: 8 hours
3. n-Butanol	71-36-3	2-3	STEL: 500ppm from ACGIH [USA, 1999], Period: 15 minutes CEIL: 152mg/m ³ from ACGIH (USA). Additional hazards: Skin TWA: 100ppm from ACGIH (USA). Additional hazards: Skin CEIL: 50ppm from ACGIH (USA). Additional hazards: Skin TWA: 300ppm from OSHA (USA)
4. Naphtha	8030-30-6	1.5	CEIL: 50ppm from OSHA (USA) TWA: 300 mg/m ³ from OSHA (USA) TWA: 100 from OSHA (USA) STEL: 500 from OSHA (USA) TWA: 1590mg/m ³ from ACGIH (USA) TWA: 400ppm from ACGIH (USA) TWA: 100ppm from OSHA (USA) TWA: 400mg/m ³ from OSHA (USA)

3	HAZARDS IDENTIFICATION
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Physical state and appearance	: Liquid.
Emergency overview	: WARNING! FLAMMABLE LIQUID AND VAPOUR. Keep away from heat, sparks and flame. Avoid eye contact. Do not ingest. Avoid prolonged or repeated contact with skin. Avoid over exposure during pregnancy. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling
Routes of entry	: Eye contact. Ingestion. Inhalation. Absorbed through skin.
Potential acute health effects	
Eyes	: Hazardous in case of eye contact (irritant).
Skin	: Very hazardous in case of skin contact. Hazardous in case of skin contact (sensitizer, permeator) Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Inhalation	: Hazardous in case of inhalation.
Ingestion	: Hazardous in case of ingestion
Potential chronic health effects	: CARCINOGENIC EFFECTS: Classified A4 (not classified for human or animal) by ACGIH, 3 (Not classified for humans) by IARC [Isopropanol]. Classified A4 (not classified for human or animal) by ACGIH [Ethanol]. Classifies none, by NIOSH [Butan-1-ol]. Classified none, by NIOSH [2-Methylpropan-1-ol]. Classified none, by NIOSH [2-PENTANOL]. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [MEK]. TERATOGENIC EFFECTS: not available
Medical conditions aggravated by overexposure	: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs
Overexposure/signs/Symptoms	: Mild CNS depressant. Cause skin and eye irritation. Vapour may cause headache, nausea, dizziness, drowsiness, incoordination. High vapour concentrations may cause unconsciousness and death. NOTE: Aspiration hazard. Swallowing or vomiting may result in aspiration into the lungs

See toxicological information (section 11)

4	FIRST AID MEASURES
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Eye contact	: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 15 minutes, keep eyelids open. Cold water may be used. Get medical attention.
Skin contact	: In the case of contact, immediately flush the skin with plenty of water for at least 15 minutes while gently removing contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Hazardous skin contact	: Wash with a disinfectant soap. Seek medical attention.
Inhalation	: If inhaled, remove to fresh air and allow victim to rest. Get medical attention.
Hazardous inhalation	: If inhaled, remove victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is laboured, give oxygen. If not breathing apply artificial respiration. Get medical attention. WARNING! It may be hazardous to the person performing aid to give CPR when inhaled material is toxic, infectious or corrosive. Seek medical attention..
Ingestion	: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material is swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Hazardous ingestion	: No additional information
Notes to physician	: Support respiratory and cardiovascular function.

5	<i>FIRE FIGHTING MEASURES</i>
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Flammability of the product	: Flammable
Autoignition temperature	: The lowest known value is 288°C (550.4°F) [ethanol]
Flash points	: CLOSED CUP: 7°C (44.6°F).
Flammable limits	: The greatest known range is LOWER: 3.3% UPPER: 19% [ethanol]
Products of combustion	: These products are carbon oxides (CO, CO ₂)
Fire hazards in presence of various substances	: Highly flammable in the presence of acids, open flames and sparks and of alkalis. Flammable in the presence of heat and oxidizing materials, reducing materials and of combustible materials. Slightly flammable in the presence of shocks, and of reducing materials. Non-flammable in presence of moisture and shocks.
Explosion hazards in presence of various substances	: Explosive in the presence of open flames and sparks, of heat. Explosive in presence of oxidizing materials.
Fire fighting media and instructions	: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet on order to prevent pressure build-up, autoignition or explosion.
Protective clothing (fire)	: Be sure to use an approved/certified respirator/equivalent. .
Special remarks on fire hazards	: Containers should be grounded.
Special remarks on explosive hazards	: Vapours mixed with air explode when ignited.

6	ACCIDENTAL RELEASE MEASURES
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Small spill or leak	: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large spill or leak	: Keep away from heat. Keep away from sources of Ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

7	HANDLING AND STORAGE
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Handling	: Keep locked up. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. DO NOT ingest. DO NOT breathe gas, fumes, vapour or spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show label or container. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
Storage	: Store in a segregated and approved area. Keep containers in a cool, well-ventilated area. Keep container tightly closed and sealed until ready to use. Avoid all possible sources of ignition (spark or flame).

8	EXPOSURE CONTROLS, PERSONAL PROTECTION
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Engineering controls	: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below their respective threshold limit values. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal protection	
Eyes	: Splash goggles.
Body	: Chemical resistant protective suit.
Respiratory	: Vapour respirator. Be sure to use an approved respirator equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	: Chemical resistant gloves, Butyl rubber gloves.
Feet	: Chemical resistant boots.
Protective clothing	: Splash goggles. Full suit. Vapour respirator. Butyl gloves.
Personal protection in case of large spills	: Splash goggles. Full suit. Vapour and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling the product.

(EXPOSURE CONTROLS, PERSONAL PROTECTION CONTINUED...)	
1. Ethanol	TWA: 1880mg/m ³ from ACGIH (USA) TWA: 1000ppm from OSHA (USA) TWA: 1900 mg/m ³ from OSHA (USA) TWA: 1900ppm from OSHA (USA)
2. Isopropyl alcohol	TWA: 400ppm from OSHA [USA, 1992], Period: 8 hours TWA: 980ppm from OSHA [USA, 1976], Period: 8 hours STEL: 500ppm from OSHA [USA, 1976], Periods: 15 minutes
3. n-Butanol	TWA: 400ppm from ACGIH [USA, 1999], Period: 8 hours STEL: 500ppm from ACGIH [USA, 1999], Period: 15 minutes CEIL: 152mg/m ³ from ACGIH (USA). Additional hazards: Skin TWA: 100ppm from ACGIH (USA). Additional hazards: Skin CEIL: 50ppm from ACGIH (USA). Additional hazards: Skin
4. Naphtha	TWA: 300ppm from OSHA (USA) CEIL: 50ppm from OSHA (USA) TWA: 300 mg/m ³ from OSHA (USA) TWA: 100 from OSHA (USA) STEL: 500 from OSHA (USA) TWA: 1590mg/m ³ from ACGIH (USA) TWA: 400ppm from ACGIH (USA) TWA: 100ppm from OSHA (USA) TWA: 400mg/m ³ from OSHA (USA)

Physical state and appearance	: Liquid.
Colour	: Colourless. Clear.
Odor	: Not available.
Taste	: Not available.
Molecular weight	: Not applicable
Molecular formula	: Not applicable.
PH (1% soln/water)	: 7 [Neutral.]
Boiling/condensation point	: 77°C
Melting/freezing point	: May start to solidify at -88.5°C . Weighted average: -111.76°C
Critical temperature	: The lowest known value is 232.5 °C
Specific gravity	: 0.791 (water=1)
Vapor pressure	: The highest known value is 43mm of Hg (@20°C) Weighted average: 41.39mm of Hg (@20°C).
Vapor density	: The highest known value is 2.55 (Air=1). Weighted average: 1.67 (Air=1)
Volatility	: 100% vlv. Weighted average: 127% (v/v) 100% (w/w). Weighted average: 100% v/v
Odor threshold	: The highest known value is 200ppm. Weighted average: 177.63ppm.
Evaporation rate	: 1.457 (Butyl acetate)
VOC	: 100 (%)
Viscosity	: The highest known value is 36.1cP. Weighted average: 2.31 cP.
LogK_{ow}	: The product is not soluble in water.
Iconicity (in water)	: No data available.
Dispersion properties	: See solubility in water, methanol, diethyl ether, n-octanol, and acetone.
Solubility	: Easily soluble in cold water, hot water, methanol, and diethyl ether. Soluble in acetone. Partially soluble in n-octanol.
Physical chemical comments	: No additional remark.

10 STABILITY AND REACTIVITY

Stability and reactivity	: The product is stable.
Conditions of instability	: Sparks, openflames, heat and other ignition sources.
Incompatibility with various substances	: Highly reactive with reducing agents. Reactive with oxidizing agents, metals, acids, alkalis. Slightly reactive with moisture and organic materials.
Hazardous decomposition products	: Not available.
Hazardous polymerization	: Will not odour

11 TOXICOLOGICAL INFORMATION

Toxicity to animals	: Acute oral toxicity (LD50): 790mg/kg [Rat]. (n-Butyl alcohol). Acute dermal toxicity (LC50): >3000mg/kg [Rabbit]. (Petroleum ether).
Chronic effects on humans	: CARCINOGENIC EFFECTS: Classified A4 (not classified for human or animal) by ACGIH, 3 (Not classified for humans) by IARC [Isopropanol]. Classified A4 (not classified for human or animal) by ACGIH [Ethanol]. Classifies none, by NIOSH [Butan-1-ol]. Classified none, by NIOSH [2-Methylpropan-1-ol]. Classified none, by NIOSH [2-PENTANOL]. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [MEK]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female. Reproductive system/toxin/male [Proven][isopropanol] Contains material which causes damage to the following organs: kidneys, lungs, the nervous system, the reproductive system, mucous membranes, upper respiratory tract, central nervous system (CNS), liver, immune system, skin, eyes, lens, or cornea.
Other toxic effects on humans	: Very hazardous in case of skin contact (irritant, permeator). Hazardous in case of skin contact (sensitizer), of eye contact (irritant), of ingestion., of inhalation.
Special remarks on toxicity to animals	: Based on the reported and estimated BCF, benzene will not be expected to bioconcentrate in aquatic organisms. (Benzene).
Special remarks on chronic effects on humans	: 0900 Detected in maternal milk in human. (Isopropyl alcohol)
Special remarks on other toxic effects on humans	: Moderately toxic and narcotic in high concentrations. Experimentally tumorigen [ethanol].

12 ECOLOGICAL INFORMATION


Ecotoxicity	: Not available.
BOD5 and COD	: The COD is 52 mg/kg [Hour. Day(s)]
Biodegradable/OECD	: Not available.
Mobility	: No data available.
Products of degradation	: These products are carbon oxides (CO,CO ₂) and water
Toxicity of the products of biodegradation	: The products of degradation are less toxic than the product itself.
Special remarks on the products of biodegradation	: Not available.

13 DISPOSAL CONSIDERATIONS

Waste information	: Waste must be disposed of in accordance with federal, state, Provincial and local environmental control regulations.
Waste stream	: Not available.

Consult your local or regional authorities.

14 TRANSPORT INFORMATION

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN 1170	ALCOHOLS N.O.S.	DOT CLASS 3: Flammable liquid.	II		Not a marine pollutant
TDG Classification			TDG CLASS 3: Flammable liquid.			
IMO/IMDG Classification			IMDG CLASS 3: Flammable liquid.			
ICAO/IATA Classification			IATA CLASS 3: Flammable liquid.			
ADR/RID Classification			ADR CLASS: Flammable liquid A. Flammable liquid with a flash point lower than 21°C (70°F).			

Marine Pollutant	: Not a marine pollutant
Hazardous Substances Reportable Quantity	: Not available.
Special provisions for Transport	: No additional remark.

15 REGULATORY INFORMATION

HCS Classification	: HCS Class: Flammable liquid having flash point lower than 37.8°C (100°F). HCS Class: Irritating substance. HCS Class: Reproductive toxins. HCS Class: Target organ effects.
U.S. Federal regulations	: TSCA 5(e) substance consent order: 2-Methylpropan-1-ol TSCA 8 (a) PAIR: Isopropanol; 2-Methylpropan-1-ol, Butan-2-ol TSCA 8(a) IUR: Isopropanol; 2-Methylpropan-1-ol TSCA 8(b) Inventory: Methyl ether ketone; Butan-1-ol, 2-Methylpropan-1-ol; 2-Methylbutan-2-ol; Butan-2-ol; Petroleum ether. TSCA 12(b) one time export: Isopropanol Isopropanol; 2-Methylpropan-1-ol, Clean water act (CWA) 307: Benzene. Clean water act (CWA) 311: No products were found. Clean water act (CAA) 112 accidental release prevention: Benzene Clean water act (CAA) 112 regulated flammable substances: No products were found. Clean water act (CAA) 112 regulated toxic substances: No products were found.
International Regulations	
WHMIS (Canada)	: WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8°C WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC). WHMIS CLASS D-2B: Material causing other toxic effects (TOXIC). <u>CEPA toxic substances (schedule 1):</u> Product(s): n-Butanol <u>CEPA DSL:</u> Product(s): MEK; Benzene; Cyclohexane; Ethanol; Isopropyl alcohol.
EINECS	: Annex Index number: 603-002-00-5 (ethanol), 603-117-00-0 (iso propanol), 603-004-00-6 (n-butanol), 649-262-00-3
DSCL (EEC)	: Flammable. [F] Harmful [Xn] : R11 – Highly flammable. R36/37/38 – Irritating to eyes, respiratory system, and skin. R45 – May cause cancer. R67 – Vapours may cause drowsiness and dizziness
International Lists	: <u>Australia</u> Products: Benzene. <u>Japan (MITI)</u> Products: Benzene.

State regulations	<p>: Rhode Island RTK hazardous substance: Isopropyl alcohol; Ethanol; n-Butanol; Isobutyl alcohol; sec-Butyl alcohol.</p> <p>Pennsylvania RTK: Isopropyl alcohol (environmental hazard); MEK (special hazard, environmental hazard); Cyclohexane; Ethanol; n-Butanol; (environmental hazard); Isobutyl alcohol (environmental hazard); Pentanol-3; Pentan-2-ol; sec-Butyl alcohol (environmental hazard); Benzine</p> <p>Florida: Isopropyl alcohol; MEK; Cyclohexane; Ethanol; n-Butanol; Isobutyl alcohol; Pentanol-3; Pentan-2-ol; sec-Butyl alcohol; Benzine.</p> <p>Minnesota: Isopropyl alcohol; Ethanol; n-Butanol; Isobutyl alcohol; sec-Butyl alcohol.</p> <p>Massachusetts RTK: Isopropyl alcohol; MEK; Cyclohexane; Ethanol; n-Butanol; Isobutyl alcohol; Pentanol-3; Pentan-2-ol; sec-Butyl alcohol; Benzine.</p> <p>New Jersey: Isopropyl alcohol; MEK; Ethanol; n-Butanol; Isobutyl alcohol; sec-Butyl alcohol.</p> <p>. New Jersey Spill List: Isopropyl alcohol; Ethanol; n-Butanol; Isobutyl alcohol; sec-Butyl alcohol.</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm(female), which would require a warning under the statute: Ethanol.</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects, which would require a warning under the statute: Ethanol.</p>
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16 OTHER INFORMATION

Label requirements	: HIGHLY FLAMMABLE LIQUID AND VAPOUR, VAPOUR MAY CAUSE FLASH FIRE. MAY BE HARMFUL IF SWALLOWED MAY CAUSE EYE IRRITATION.	
Hazardous material Information System (U.S.A.)	<input type="checkbox"/>	<input type="checkbox"/>
References	<ul style="list-style-type: none"> - BDH; Hazard Data disk, Version 3. - RTECHS: National Institute for Occupational Safety and Health; Issue:97-3 (August, 1997). - CESARS: Chemical Evaluation and Retrieval System, Produced by: Ontario Ministry of Environment and Michigan department of Natural Resources. Issue: 97-3 (August 1997). - CHRIS: Chemical Hazardous Response Information System; United States Coast Guard, Issue: 97-3 (August 1997). - CHEMINFO: Canadian Centre for Occupation Health and Safety, Issue: 97-3 (August, 1997). - Hazardous Substances Data Bank (HSDB), Issue: 97-3 (August 1997). 	
Other special considerations	: No additional remarks.	
Date of Printing	: 17 MAY 2004	
Date of issue	: 17 MAY 2004	

Notice to reader:

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as

sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.