

METHYLATED SPIRITS

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

Hazard Alert Code: HIGH

CHEMWATCH 20184
Version No:8.1.1.1
Page 1 of 12

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

METHYLATED SPIRITS

SYNONYMS

"denatured ethanol", "denatured alcohol", "DAA", "industrial alcohol", "95 industrial methylated spirits", "spirit", "methylated ethanol", "industrial meths", "ethyl alcohol (denatured)", "metho, meths, 24/R1310, "denatured absolute alcohol", "APS methylated spirit 95% F3", "Flint Ink A50650 Meths", "IMS 95", "IMS 95 DG", "IMS 100", "Rhino Methylated Spirits"

PROPER SHIPPING NAME

ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

PRODUCT NUMBERS

1128262, 1715071, 1643366, 1263238

PRODUCT USE

Used in the manufacture of chemicals, lacquer thinners, industrial and domestic cleaners, solvents, antifreeze and fuel.

SUPPLIER

Company: CSR Distilleries Group Ltd
AUS Telephone: +61 2 9235 8000
Website: <http://www.csr.com.au/msds/>

Company: Callington Haven Pty Ltd
AUS Emergency Tel: **1800 039 008 (24 hours)**
Email: sales@calhaven.com.au
Website: www.callingtonhaven.com

Company: Bracton Industries
AUS Telephone: +61 2 9938 1800
Email: sales@bracton.com
Website: www.bractonbeerlineco.com.au/msds.htm

Company: Advance Chemicals
AUS Telephone: +61 3 9398 4444
Email: sales@advancechemicals.com.au
Website: <http://www.advancechemicals.com.au/>

Company: Biotech Pharmaceuticals Pty Ltd
AUS Telephone: +61 3 9278 7555
Email: info@biotechpharma.com.au

Company: Recochem Inc
AUS Emergency Tel: **+61 7 3308 5200 (Day)**

Company: Diggers Australia Pty Ltd
AUS Telephone: +61 8 9452 5200
Email: tverbunt@recochem.com
Website:
<http://www.diggersaust.com.au/datasheets/index.htm>

Company: Glendale Chemical Products Pty Ltd
AUS Telephone: +61 2 9756 2300
Email: sales@glendalechemicals.com

Company: Ace Chemical Company
AUS Telephone: +61 8 8376 0844
Email: acechem@senet.com.au

Company: Rhino Linings Australasia Pty Ltd
AUS Telephone: +61 7 5585 7000
Email: info@rhinolinings.com.au
Website: www.rhinolinings.com.au

Company: NV Chemicals Australia Pty Ltd
AUS Emergency Tel: **1800 039 008 (24 hrs)**

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS

continued...

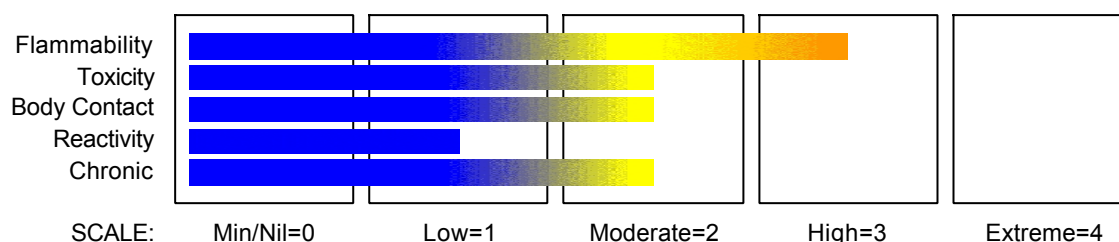
METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 2 of 12

Section 2 - HAZARDS IDENTIFICATION



RISK

- Highly flammable.
 - Irritating to eyes.
 - Vapours may cause drowsiness and dizziness.
 - Inhalation and/or ingestion may produce health damage*.
 - Cumulative effects may result following exposure*.
 - May produce discomfort of the respiratory system and skin*.
- * (limited evidence).

SAFETY

- Keep away from sources of ignition. No smoking.
- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Avoid contact with eyes.
- Wear suitable gloves.
- Wear eye/face protection.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- Do not empty into drains.
- To clean the floor and all objects contaminated by this material, use water.
- Keep container tightly closed.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
- This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ethanol	64-17-5	>95
methyl isobutyl ketone	108-10-1	0.25
denatonium benzoate at 6.6 ppm, i.e.		
denatonium benzoate	3734-33-6	0.00066
fluorescein		0.0001
brucine sulfate	4845-99-2	Not spec
water	7732-18-5	Balance

Section 4 - FIRST AID MEASURES

SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet

Issue Date: 11-Jun-2009

X9317SP

CHEMWATCH 20184

Version No:8.1.1.1

Page 3 of 12

Section 4 - FIRST AID MEASURES

EYE

■ If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

■ If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to ethanol:

- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water course.

FIRE/EXPLOSION HAZARD

- Liquid and vapour are highly flammable.
 - Severe fire hazard when exposed to heat, flame and/or oxidisers.
 - Vapour may travel a considerable distance to source of ignition.
 - Heating may cause expansion or decomposition leading to violent rupture of containers.
- Combustion products include: carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM

•2YE

continued...

METHYLATED SPIRITS

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

Hazard Alert Code: HIGH

CHEMWATCH 20184
Version No:8.1.1.1
Page 4 of 12

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

SUITABLE CONTAINER

- Glass container is suitable for laboratory quantities.
Do not store in aluminium containers.
- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.
- For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C)
- For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
- Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)
- (i) : Removable head packaging;
- (ii) : Cans with friction closures and
- (iii) : low pressure tubes and cartridges may be used.

STORAGE INCOMPATIBILITY

- Avoid strong bases.
- *.
- Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.

STORAGE REQUIREMENTS

- Store in original containers in approved flame-proof area.
- No smoking, naked lights, heat or ignition sources.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 5 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Australia Exposure Standards	ethanol (Ethyl alcohol)	1000	1880						
Australia Exposure Standards	methyl isobutyl ketone (Methyl isobutyl ketone)	50	205	75	307				

The following materials had no OELs on our records

- denatonium benzoate: CAS:3734- 33- 6
- brucine sulfate: CAS:4845- 99- 2 CAS:5787- 00- 8 CAS:38741- 38- 7 CAS:652154- 10- 4
- water: CAS:7732- 18- 5

ODOUR SAFETY FACTOR (OSF)

OSF=6 (ETHANOL)

- Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

MATERIAL DATA

DENATONIUM BENZOATE:

ETHANOL:

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

ETHANOL:

METHYLATED SPIRITS:

For ethanol:

Odour Threshold Value: 49-716 ppm (detection), 101 ppm (recognition)

Eye and respiratory tract irritation do not appear to occur at exposure levels of less than 5000 ppm and the TLV-TWA is thought to provide an adequate margin of safety against such effects. Experiments in man show that inhalation of 1000 ppm caused slight symptoms of poisoning and 5000 ppm caused strong stupor and morbid sleepiness.

BRUCINE SULFATE:

WATER:

No exposure limits set by NOHSC or ACGIH.

METHYL ISOBUTYL KETONE:

for methyl isobutyl ketone (MIBK):

Unfatigued, odour recognition threshold (100% test panel) is 0.3 - 0.5 ppm.

Distinct odour at 15 ppm.

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 6 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Odour is objectionable and vapours are irritating to eyes at 200 ppm.

NOTE: Detector tubes for methyl isobutyl ketone, measuring in excess of 50 ppm, are commercially available.

Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class A or B.

The Odour Safety Factor (OSF) is defined as:

$OSF = \text{Exposure Standard (TWA) ppm} / \text{Odour Threshold Value (OTV) ppm}$

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

DENATONIUM BENZOATE:

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience).

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

BRUCINE SULFATE:

Strychnine is an acute convulsant poison acting at the level of the spinal chord in animals and man. The daily 8-hour TWA exposure to strychnine in air corresponds to a total dose of 0.02 mg/kg/day.

PERSONAL PROTECTION



RESPIRATOR

•Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 7 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

not be calculated in advance and has therefore to be checked prior to the application.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets), non sparking safety footwear.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear, colourless, highly flammable liquid with a characteristic odour and burning taste; mixes with water, methyl alcohol, ether, chloroform and acetone.

PHYSICAL PROPERTIES

Liquid.
Mixes with water.

State	Liquid	Molecular Weight	46.8
Melting Range (°C)	- 117.3	Viscosity	Not Available
Boiling Range (°C)	78.3	Solubility in water (g/L)	Miscible
Flash Point (°C)	13 (CC)	pH (1% solution)	Not available.
Decomposition Temp (°C)	Not available.	pH (as supplied)	Not available
Autoignition Temp (°C)	392	Vapour Pressure (kPa)	5.81 @ 20 C
Upper Explosive Limit (%)	19.0	Specific Gravity (water=1)	0.79
Lower Explosive Limit (%)	3.3	Relative Vapour Density (air=1)	1.59
Volatile Component (%vol)	100	Evaporation Rate	2.53 BuAc=1

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 8 of 12

Section 11 - TOXICOLOGICAL INFORMATION

ACUTE HEALTH EFFECTS

SWALLOWED

■ Accidental ingestion of the material may be damaging to the health of the individual.

Ingestion of ethanol (ethyl alcohol, "alcohol") may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. Effects on the body:

Blood concentration
<1.5 g/L

1.5- 3.0 g/L

3- 5 g/L

Effects

Mild: impaired vision, co- ordination and reaction time; emotional instability

Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence. Slow breathing may occur rarely and fast breathing may develop in cases of metabolic acidosis, low blood sugar and low blood potassium. Central nervous system depression may progress to coma.

Severe: cold clammy skin, low body temperature and low blood pressure. Atrial fibrillation and heart block have been reported. Depression of breathing may occur, respiratory failure may follow serious poisoning, choking on vomit may result in lung inflammation and swelling. Convulsions due to severe low blood sugar may also occur. Acute liver inflammation may develop.

Considered an unlikely route of entry in commercial/industrial environments. The liquid may produce gastrointestinal discomfort and may be harmful if swallowed. Ingestion may result in nausea, pain and vomiting. Vomit entering the lungs by aspiration may cause potentially lethal chemical pneumonitis.

Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.

EYE

■ There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. There may be damage to the cornea. Unless treatment is prompt and adequate there may be permanent loss of vision. Conjunctivitis can occur following repeated exposure.

Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.

SKIN

■ Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Inhalation hazard is increased at higher temperatures.

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet

Issue Date: 11-Jun-2009

X9317SP

CHEMWATCH 20184

Version No:8.1.1.1

Page 9 of 12

Section 11 - TOXICOLOGICAL INFORMATION

headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness.

CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.

Large amounts of ethanol taken in pregnancy may result in "foetal alcohol syndrome", characterised by delay in mental and physical development, learning difficulties, behavioural problems and small head size. A small number of people develop allergic reactions to ethanol, which include eye infections, skin swelling, shortness of breath, and itchy rashes with blisters.

Ingestion may result in intoxication and drunkenness. In chronic form this may result in alcoholism and liver damage.

Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS].

TOXICITY AND IRRITATION

■ The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

CARCINOGEN

Methyl isobutyl ketone

International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs

Group

2B

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
ethanol	LOW	MED	LOW	HIGH
methyl isobutyl ketone	LOW	LOW	LOW	HIGH
denatonium benzoate	No Data Available	No Data Available		
brucine sulfate	No Data Available	No Data Available		

Section 13 - DISPOSAL CONSIDERATIONS

■ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction.
- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

CHEMWATCH 20184
Version No:8.1.1.1
Page 10 of 12

Section 14 - TRANSPORTATION INFORMATION



Labels Required: FLAMMABLE LIQUID

HAZCHEM:

•2YE (ADG7)

Land Transport UNDG:

Class or division:	3	Subsidiary risk:	None
UN No.:	1170	UN packing group:	II

Shipping Name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	None
UN/ID Number:	1170	Packing Group:	II
Special provisions:	A3		
Cargo Only			
Packing Instructions:	364	Maximum Qty/Pack:	60 L
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	353	Maximum Qty/Pack:	5 L
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	Y341	Maximum Qty/Pack:	1 L

Shipping name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	None
UN Number:	1170	Packing Group:	II
EMS Number:	F-E,S-D	Special provisions:	144
Limited Quantities:	1 L		

Shipping name: ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

S5, NZS2

REGULATIONS

Regulations for ingredients

ethanol (CAS: 64-17-5) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "FEMA Generally Recognized as Safe (GRAS) Flavoring Substances 23 - Examples of FEMA GRAS Substances with Non-Flavor Functions", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution - Norway", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Competition (German)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (English)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (French)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (Korean)"

continued...

METHYLATED SPIRITS

Hazard Alert Code: HIGH

Chemwatch Material Safety Data Sheet

Issue Date: 11-Jun-2009

X9317SP

CHEMWATCH 20184

Version No:8.1.1.1

Page 11 of 12

Section 15 - REGULATORY INFORMATION

methyl isobutyl ketone (CAS: 108-10-1) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway"

denatonium benzoate (CAS: 3734-33-6) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "International Fragrance Association (IFRA) Survey: Transparency List", "OSPAR National List of Candidates for Substitution – Norway", "OSPAR National List of Candidates for Substitution – United Kingdom"

brucine sulfate (CAS: 4845-99-2, 5787-00-8, 38741-38-7, 652154-10-4) is found on the following regulatory lists;

"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix G", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix J (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7", "International Fragrance Association (IFRA) Survey: Transparency List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Marine Pollutants", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index"

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway"

No data for methylated spirits (CAS: , Not avail)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
denatonium benzoate	3734- 33- 6	Xn; R22

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
brucine sulfate	4845-99-2, 5787-00-8, 38741-38-7, 652154-10-4

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 11-Jun-2009

Print Date: 6-Aug-2012

continued...

METHYLATED SPIRITS

Chemwatch Material Safety Data Sheet
Issue Date: 11-Jun-2009
X9317SP

Hazard Alert Code: HIGH

CHEMWATCH 20184
Version No:8.1.1.1
Page 12 of 12

Section 16 - OTHER INFORMATION

This is the end of the MSDS.