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## Material Safety Data Sheet

### DENATURED ALCOHOL (2A OR COMSOL 2A2)

Revision Date: 2008/12/16

#### Section 1: PRODUCT INFORMATION

**Product name:** Denatured Alcohol (2A or Comsol 2A2)

**Chemical family:** Mixture.

**TDG classification:** ETHANOL SOLUTION  
 UN1170  
 Class 3  
 PG II.



**WHMIS classification:**

B2, D1B, D2B.



**DSL status:** The substance(s) listed in section 2 appear on the Domestic Substances List.

**Supplier MSDS date:** 2008/12/16

#### Section 2: HAZARDOUS INGREDIENTS

C.A.S.	CONCENTRATION %	Ingredient Name	T.L.V.	LD/50	LC/50
141-78-6	0.1-1	ETHYL ACETATE	400 PPM	5620 MG/KG RAT ORAL 4100 MG/KG MOUSE ORAL 4935 MG/KG RABBIT ORAL >20 ML/KG RABBIT DERMAL	200,000 MG/M3 RAT INHALATION 45,000 MG/M3/2H MOUSE INHALATION 1600 PPM/8H RAT INHALATION >6000 PPM/6H RAT INHALATION
64-17-5	60 - 100	ETHYL ALCOHOL	1000 PPM	7060 MG/KG RAT ORAL 3450 MG/KG MOUSE ORAL 6300 MG/KG RABBIT ORAL	20,000 PPM/10H RAT INHALATION  39,000 MG/M3/4H MOUSE INHALATION
67-56-1	10 - 30	METHYL ALCOHOL	200 PPM (SKIN)	5600 MG/KG RAT ORAL 7300 MG/KG MOUSE ORAL 14,200 MG/KG RABBIT ORAL 15,800 MG/KG RABBIT DERMAL	81,000 MG/M3/14H RABBIT INHALATION 64,000 PPM/4H RAT INHALATION

### Section 3: PHYSICAL DATA

**Physical state:** Liquid.

**Appearance & odor:** Clear  
Mild alcohol odor.  
Colorless.

**Odor threshold (ppm):** 100

**Vapour pressure (mmHg):** @ 20°C (68°F).  
12 kPa

**Vapour density (air=1):** 1.4

#### Volatiles (%)

**By volume:** Not available.

**Evaporation rate  
(butyl acetate = 1):** Not available.

**Boiling point (°C):** 74 –79

**Freezing point (°C):** –114°C

**pH:** Neutral.  
May act as a very weak acid or a very weak alkali.

**Specific gravity @ 20 °C:** 0.791 @ 20°C

**Solubility in water (%):** Complete.  
(also soluble in hydrocarbons, ethers, ketones).  
(also soluble in esters and acids).

**Coefficient of water\oil dist.:** Not available.

**VOC:** Not available.

### Section 4: FIRE & EXPLOSION DATA

**Flammability:** Flammable.

**Conditions of flammability:** Heat, sparks and open flames.

**Extinguishing media:** Dry chemical.  
Foam  
Water fog.  
Do not use direct water jet.  
Solid streams of water are likely to spread fire.

**Special procedures:** Firefighters should wear adequate protective gear.  
Self-contained breathing apparatus required.  
Use water spray to cool fire exposed containers.  
This products floats on water which creates a fire hazard.

**Auto-ignition temperature (°C):** 385

**Flash point (°C), method:** 12°C

**Lower flammability  
limit (% vol):** ~3%

**Upper flammability  
limit (% vol):** ~20%

### Explosion Data

- Sensitivity to static discharge:** Not sensitive.
- Sensitivity to mechanical impact:** Not sensitive.
- Hazardous combustion products:** Carbon monoxide (CO).  
Smoke  
Nitrogen oxides (NO<sub>x</sub>).  
Partially oxidised hydrocarbon fragments.
- Explosive power:** May form explosive compounds with aqua ammonia.

### **Section 5: REACTIVITY DATA**

- Chemical stability:** Stable under normal conditions.
- Conditions of instability:** Contact with incompatible substances.
- Hazardous polymerization:** Will not occur.
- Incompatible substances:** Strong oxidizing agents.  
Aqua ammonia.
- Hazardous decomposition products:** See hazardous combustion products.

### **Section 6: TOXICOLOGICAL PROPERTIES**

- Route of entry:** Eye contact, skin contact, skin absorption, inhalation and ingestion.
- Effects of acute exposure**
- Eye contact:** Irritant.  
Vapours may cause irritation.
- Skin contact:** Irritant.  
May cause drying.
- Skin absorption:** Not considered toxic by skin absorption.  
May be absorbed through the skin.
- Inhalation:** Irritant.  
Intoxication.  
May cause drowsiness.  
May cause headache, dizziness and nausea.  
May cause anaesthesia effects.
- Ingestion:** May cause dizziness.  
May cause headache and drowsiness.  
Aspiration hazard if swallowed.  
May cause signs of intoxication.  
May cause anaesthesia effects.
- Effects of chronic exposure:** May cause liver damage.  
May cause blindness.  
Prolonged or repeated overexposure may cause drying and cracking of the skin (dermatitis).
- LD50 of product, species & route:** Not available for mixture, see the ingredients section.
- LC50 of product, species & route:** Not available for mixture, see the ingredients section.

**Exposure limit of material:** Not available for mixture, see the ingredients section.

**Sensitization to product:** No

**Carcinogenic effects:** Not listed as a carcinogen.

**Reproductive effects:** May cause adverse reproductive effects.

**Teratogenicity:** Possible developmental hazard.

**Mutagenicity:** Not available.

**Synergistic materials:** Existing liver disease, other hepatotoxic agents; may be synergistic.  
Some carcinogens.

## Section 7: PREVENTATIVE MEASURES

### Precautionary Measures

**Gloves/Type:**



Butyl rubber.  
Viton gloves.

**Respiratory/Type:** None required under normal use.



NIOSH approved organic respirator may be necessary if ventilation is not adequate.

**Eye/Type:**



Chemical safety goggles.

**Footwear/Type:**



Impervious boots.  
When splashing is possible.

**Clothing/Type:** Long sleeve shirt, long trousers.  
When splashing is possible.



Apron

**Other/Type:** Eye wash facility should be in close proximity.  
Emergency shower should be in close proximity.

**Ventilation requirements:** As needed to stay below TLV.

**Leak/Spill:** Eliminate all sources of ignition.  
Dike area to prevent spreading.  
Ventilate area.  
Wear appropriate protective equipment.  
Ground handling equipment.  
Use non-sparking tools.  
Explosion proof motors are recommended.  
Pump to containers or soak up on inert absorbent.  
Place in a closed container for disposal.  
Blanket spill with foam to protect against accidental ignition.

Use plastic or aluminum shovel only.

**Waste disposal:** In accordance with municipal, provincial and federal regulations.

**Handling procedures and equipment:** Keep away from heat, sparks, and open flame.  
Avoid breathing vapors/mists.  
Use adequate ventilation.  
Wear personal protective equipment appropriate to task.  
Use proper grounding procedures.  
Avoid contact with skin, eyes and clothing.  
Do not cut, grind, weld or drill on or near containers.  
Use with explosion proof equipment.  
Launder contaminated clothing prior to reuse.

**Storage requirements:** Store away from all sources of ignition.  
Store away from incompatible materials.  
Store in a cool, dry and well ventilated area.

**TDG classification:** ETHANOL SOLUTION  
UN1170  
Class 3  
PG II.



**Special shipping information:** See transportation information.

#### Section 8: FIRST AID MEASURES

- Skin contact:** Remove contaminated clothing.  
Wash with mild soap and water.  
Consult a physician if irritation persists.
- Eye contact:** Flush eyes with clear, running water for 15 minutes while holding eyelids open. If irritation persists, consult a physician.
- Inhalation:** Remove victim to fresh air. If not breathing, qualified personnel should administer artificial respiration. Get medical attention.
- Ingestion:** Obtain immediate medical attention.  
Give large quantities of water to drink.  
Do not induce vomiting, keep person warm, quiet.  
Guard against aspiration of liquids into lungs.  
If vomiting occurs, keep head below hips.  
Never give anything by mouth to an unconscious person.
- Additional information:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

#### Section 9: ADDITIONAL INFORMATION

**General note:** This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

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