

MATERIAL SAFETY DATA SHEET
Ammonia, 2M solution in methanol

Section 1 - Chemical Product and Company Identification

MSDS Name:	Ammonia, 2M solution in methanol
Catalog Numbers:	36839-0000, 36839-1000, 36839-8000
Synonyms:	
Company Identification:	Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
67-56-1	Methyl alcohol	96%	200-659-6	F T	11 23/24/25 39/23/24/25
7664-41-7	Ammonia	4%	231-635-3	XN	10 20 36/37/38

Text for R-phrases: see Section 16

Hazard Symbols: T F



Risk Phrases: 11 23/24/25 36/37/38 39/23/24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Potential Health Effects

- Eye:** Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause painful sensitization to light.
- Skin:** Causes moderate skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.
- Ingestion:** May be fatal or cause blindness if swallowed. Cannot be made non-poisonous. May cause

gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause cardiopulmonary system effects.

Inhalation: May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause visual impairment and possible permanent blindness. Causes irritation of mucous membrane.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause reproductive disorders and teratogenic effects. Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Wash mouth out with water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Effects may be delayed. Ethanol may inhibit methanol metabolism. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Use flooding quantities of water as spray.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Use a spark-proof tool. Provide ventilation. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep refrigerated. (Store below 4°C/39°F.) Store in a tightly closed container. Store in a dry area. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

CAS# 67-56-1:

United Kingdom, WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA United Kingdom, WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL
United States OSHA: 200 ppm TWA; 260 mg/m³ TWA
Belgium - TWA: 200 ppm VLE; 266 mg/m³ VLE Belgium - STEL: 250 ppm VLE; 333 mg/m³ VLE
France - VME: 200 ppm VME; 260 mg/m³ VME France - VLE: 1000 ppm VLE; 1300 mg/m³ VLE
Germany: 200 ppm TWA; 270 mg/m³ TWA Germany: skin notation
Japan: 200 ppm OEL; 260 mg/m³ OEL
Malaysia: 200 ppm TWA; 262 mg/m³ TWA
Netherlands: 200 ppm MAC; 260 mg/m³ MAC
Russia: 5 mg/m³ TWA (vapour)
Spain: 200 ppm VLA-ED; 266 mg/m³ VLA-ED Spain: 250 ppm VLA-EC; 333 mg/m³ VLA-EC

CAS# 7664-41-7:

United Kingdom, WEL - TWA: 25 ppm TWA (anhydrous); 18 mg/m³ TWA (anhydrous) United Kingdom, WEL - STEL: 35 ppm STEL (anhydrous); 25 mg/m³ STEL (anhydrous)
United States OSHA: 50 ppm TWA; 35 mg/m³ TWA
Belgium - TWA: 20 ppm VLE; 14 mg/m³ VLE Belgium - STEL: 50 ppm VLE; 36 mg/m³ VLE
France - VME: 10 ppm VME; 7 mg/m³ VME France - VLE: 20 ppm VLE; 14 mg/m³ VLE
Germany: 50 ppm TWA; 35 mg/m³ TWA
Japan: 25 ppm OEL; 17 mg/m³ OEL
Malaysia: 25 ppm TWA; 17 mg/m³ TWA
Netherlands: 50 ppm STEL; 36 mg/m³ STEL Netherlands: 20 ppm MAC; 14 mg/m³ MAC
Spain: 20 ppm VLA-ED; 14 mg/m³ VLA-ED Spain: 50 ppm VLA-EC; 36 mg/m³ VLA-EC

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Color: colorless

Odor: Not available

pH: Not available

Vapor Pressure: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: Not available
Autoignition Temperature: Not available
Flash Point: 6 deg C (42.80 deg F)
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Soluble
Specific Gravity/Density: 0.787
Molecular Formula: H3N
Molecular Weight: 17.03

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Incompatible materials, ignition sources, exposure to moist air or water.

Incompatibilities with Other Materials Exposure to moist air or water, reducing agents, acids, acid chlorides, alkali metals, magnesium, potassium, sodium, metals as powders (e.g. hafnium, rane nickel), acid anhydrides.

Hazardous Decomposition Products Carbon monoxide, carbon dioxide.

Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 67-56-1: PC1400000
CAS# 7664-41-7: BO0875000

LD50/LC50: RTECS:
CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, rabbit: LC50 = 81000 mg/m³/14H;
Inhalation, rat: LC50 = 64000 ppm/4H;
Oral, mouse: LD50 = 7300 mg/kg;
Oral, rabbit: LD50 = 14200 mg/kg;
Oral, rat: LD50 = 5600 mg/kg;
Skin, rabbit: LD50 = 15800 mg/kg;

RTECS:
CAS# 7664-41-7: Inhalation, mouse: LC50 = 4230 ppm/1H;
Inhalation, mouse: LC50 = 4600 mg/m³/2H;
Inhalation, rabbit: LC50 = 7 gm/m³/1H;
Inhalation, rat: LC50 = 2000 ppm/4H;
Inhalation, rat: LC50 = 18600 mg/m³/5M;
Inhalation, rat: LC50 = 7040 mg/m³/30M;
Skin, rat: LD50 = 112000 mg/m³/15M;
Skin, rat: LD50 = 71900 mg/m³/30M;
Skin, rat: LD50 = 4840 mg/m³/60M;

Carcinogenicity: Methyl alcohol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Ammonia - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Other: Avoid entering into waters or underground water. Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	FLAMMABLE LIQUID, TOXIC, N.O.S.*	FLAMMABLE LIQUID, TOXIC, N.O.S.	FLAMMABLE LIQUID, TOXIC, N.O.S.
Hazard Class:	3 (6.1)	3 (6.1)	3 (6.1)
UN Number:	1992	1992	1992
Packing Group:	II	II	II

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

USA RQ: CAS# 7664-41-7: 100 lb final RQ; 45.4 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T F

Risk Phrases:

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 67-56-1: 1

CAS# 7664-41-7: 2

Canada

CAS# 67-56-1 is listed on Canada's DSL List

CAS# 7664-41-7 is listed on Canada's DSL List

US Federal

TSCA

CAS# 67-56-1 is listed on the TSCA Inventory.

CAS# 7664-41-7 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

R 10 Flammable.

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 20 Harmful by inhalation.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

MSDS Creation Date: 4/17/2003

Revision #2 Date 8/08/2006

Revisions were made in Sections: 2, 7

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