Material Safety Data Sheet
Dimethylamine, 40 Wt% Solution in Water

ACC# 87205

Section 1 - Chemical Product and Company Identification

MSDS Name: Dimethylamine, 40 Wt% Solution in Water
Catalog Numbers: AC163670000, AC163670010, AC163670025, AC163670050, AC163671000
Synonyms: DMA; N-Methyl-Methanamine.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	60	231-791-2
124-40-3	Dimethylamine	40	204-697-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -18 deg C.
Danger! Corrosive. Causes eye and skin burns. Causes digestive and respiratory tract burns. **Flammable liquid and vapor.** Lachrymator (substance which increases the flow of tears). May be harmful if swallowed. May cause liver damage. The toxicological properties of this material have not been fully investigated.
Target Organs: Liver.

Potential Health Effects

Eye: Causes eye burns. May result in corneal injury. Lachrymator (substance which increases the flow of tears).
Skin: Causes skin burns.
Ingestion: Causes gastrointestinal tract burns. May cause liver damage. May be harmful if swallowed.
Inhalation: Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
Chronic: Chronic ingestion may cause liver damage.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. 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.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. 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. Use water spray to keep fire-exposed containers cool. Liquid will float and may reignite on the surface of water. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out. Do not use bicarbonate based dry chemical extinguishers for fires involving nitromethane or nitroethanes. Reaction with alkaline bicarbonates or other strong alkalis can form salts that may reignite when dry.
Flash Point: -18 deg C (-0.40 deg F)
Autoignition Temperature: 390 deg C (734.00 deg F)
Explosion Limits, Lower:2.8
Upper: 14.4
NFPA Rating: (estimated) Health: 3; Flammability: 4; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Dimethylamine	5 ppm TWA; 15 ppm STEL	10 ppm TWA; 18 mg/m3 TWA 500 ppm IDLH	10 ppm TWA; 18 mg/m3 TWA

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Dimethylamine: 10 ppm TWA; 18 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear a chemical apron. 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: Liquid
Appearance: clear, colorless
Odor: A strong fishy or ammonia-like odor.
pH: Not available.
Vapor Pressure: 1277 mm Hg @ 20 C
Vapor Density: 1.55
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 54 deg C
Freezing/Melting Point:-37 deg C
Decomposition Temperature: Not available.
Solubility: Miscible with water.
Specific Gravity/Density:0.898
Molecular Formula:C2H7N
Molecular Weight:45.0557

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: High temperatures, mechanical shock, incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials: Reacts violently with acids, acrylaldehyde, maleic anhydride, oxidizing agents, mercury, some metals, chlorine, fluorine, nitrates, nitric acid, permanganates, halogens, and peroxides. Incopatible with aluminum, tin, copper, galvinized iron, and zinc.
Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000
CAS# 124-40-3: IP8750000
LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;
.

CAS# 124-40-3:
Draize test, rabbit, eye: 50 mg/5M;
Inhalation, mouse: LC50 = 4725 ppm/2H;
Inhalation, rat: LC50 = 4540 ppm/6H;
Oral, mouse: LD50 = 316 mg/kg;
Oral, rabbit: LD50 = 240 mg/kg;
Oral, rat: LD50 = 698 mg/kg;
.

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 124-40-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Edema of the epithelium of the cornea, generally without pain, has been produced by amine vapors, causing colored haloes to be seen around lights, usually in the evening, after industrial exposure to the vapors of various amines.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: cyt-rat-ihl 50 æg/m3
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. log Pow:-0.38 Fish toxicity: creek chub LC50:40 mg/l (24H) [McKee, J.E. et al Water Quality Criteria 1963, State Water Quality Control Board, CA] Invertebrate toxicity: Photobacterium phosphoreum EC50:27 ppm (15 min) - Microtox test [Kaiser, K.L.E. et al Water Pollut. Res. J. Can. 1991, 26(3), 361-431]
Environmental: A calculated bioconcentration factor of 0.3 indicates that environmental accumulation is unlikely. [Lyman, W.J. et al Handbook of Chemical Property Estimation Methods: Environmental Behaviour of Organic Compounds 1982, McGrac-Hill, New York]. BOD5:1.3 mg O2/l; BOD20:2.0 mg O2/l; ThOD:2.006 mg O2/l. Permanganate value 0.024 mg O2/l [Meinck,F. et al Les Eaux Residuaires Industrielles 1970]
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 124-40-3: waste number U092 (Ignitable waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	DIMETHYLAMINE SOLUTION	DIMETHYLAMINE SOLUTION
Hazard Class:	3	3(8)
UN Number:	UN1160	UN1160
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 124-40-3 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 124-40-3: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 124-40-3: immediate, fire.
Section 313
This material contains Dimethylamine (CAS# 124-40-3, 40%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 124-40-3 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 124-40-3 is considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 124-40-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN F+

Risk Phrases:

R 12 Extremely flammable.

R 36/38 Irritating to eyes and skin.

R 41 Risk of serious damage to eyes.

R 20 Harmful by inhalation.

Safety Phrases:

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 39 Wear eye/face protection.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.

CAS# 124-40-3: 2

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 124-40-3 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 124-40-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 2/17/1999

Revision #4 Date: 10/03/2005