



MATERIAL SAFETY DATA SHEET

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SAM
#B9003

SECTION 1 - PRODUCT INFORMATION

Product Name: S-adenosylmethionine (SAM)

SECTION 2—CHEMICAL INFORMATION

1. Ethanol	10%	Cas. #64-17-5
2. Sulfuric Acid	1%	Cas. #7664-93-9

SECTION 3—COMPOSITION/ INFORMATION ON INGREDIENT

CHEMICAL NAME: ETHANOL

SYNONYMS: Ethyl Alcohol, Ethyl Alcohol, 200 Proof USP, Ethyl Hydrate, Ethyl Hydroxide, Methylcarbinol, Absolute Ethanol, Ethyl Alcohol Anhydrous, Alcohol, Anhydrous

CHEMICAL FORMULA: C₂H₅OH

CAS No.: 164-17-5

MF: C₂H₆O

EC No.: 200-578-6

CAUTION: IRRITANT

Flammable (USA)

Target Organ (s)

Irritating to eyes, respiratory system and skin (rinse immediately with plenty of water, seek medical attention) and respiratory system.

Highly Flammable (EU)

Nerves, Liver

Hygroscopic

Harmful in contact with skin. Keep tightly closed.

Avoid contact and inhalation. Store in a cool dry place.

Wear suitable protective clothing. Keep away from sources of ignition-NO Smoking

SECTION 4 –FIRST AID MEASURES

ORAL EXPOSURE: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE: If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE: In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE: In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

SECTION 5—FIRE FIGHTING MEASURES

Extinguishing Media: Water spray.
Carbon Dioxide, dry chemical powder or appropriate foam.

Special Firefighting Procedures: Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Use water spray to cool fire-exposed containers.

Unusual Fire and Explosions Hazard (s):
Flammable Liquid

Vapor may travel considerable distance to source of ignition and flash back.

Container may explode under fire conditions.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

EVACUATE AREA

PROCEDURE(S) OF PERSONAL PRECAUTION(S):
Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and heavy rubber gloves.
Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP:

Cover with dry-lime, sand or soda ash. Place ion covered containers using non-sparking tools and transport outdoors.
Ventilate area and wash spill site after material pickup is complete.
Evacuate area. Shut off all sources of ignition.

SECTION 7 - HANDLING AND STORAGE

Refer to Section 8.

SECTION 8- EXPOSURE CONTROLS /PPE

Engineering Controls: Safety shower and eye bath. Mechanical exhaust required. **Avoid Breathing Vapor**

Personal Protective Equipment:

Respiratory

NIOSH/MSHA-approved respirator.

Eye:

Compatible safety goggles.

Hand:

Compatible chemical-resistant gloves.

General Hygiene Measures:

Wash thoroughly after handling.

Wash contaminated clothing before use.

Keep away from heat, sparks and open flame.

Keep tightly closed.

Store in a dry place.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Flash Point: 62° F

Boiling Point: 78°C

Specific Gravity: 0.794

Swiss Poison Class: FREI

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Incompatibilities:

Strong oxidizing agents, alkali metals
ammonia and peroxides

Protect from moisture.

Hazardous Decomposition Products:

Carbon monoxide, Carbon dioxide. Sulfur Oxides

Hazardous Polymerization:

Will not occur!

SECTION 11- TOXICOLOGICAL INFORMATION

Route of Exposure:

Skin Contact:

May cause skin irritation
Harmful if absorbed through skin

Eye Contact:

Causes eye irritation

Multiple Routes:

May be harmful by inhalation,
ingestion or skin absorption

Material is irritating to mucus
membranes and upper
respiratory tract.

Can cause CNS depression.

RTECS #: KQ6300000

CHRONICS EFFECTS:

Nerves, heart, liver.

This product is or contains a compo-
nent that is not classifiable as to its
carcinogenicity based on its IARC,
ACGIH, NTP or EPA

TARGET ORGAN DATA:

BEHAVIORIAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORIAL (SLEEP)
BEHAVIORIAL (ATAXIA)
BEHAVIORIAL (ANTIPSYCHOTIC)
GASTROINTESTINAL (NAUSEA OR VOMITING
LIVER (TUMORS)
BLOOD (LYMPHOMA INCLUDING HODGKIN'S DISEASE)
LUNGS THORAX OR RESPIRATION (DYSPPNAE)
SPECIFIC DEV. ABNORMALITIES (CRANIOFACIAL)

IRRITATION DATA:

SKN-RBT 400 MG OPEN MLD	UCDS** 7/22/1970
SKN-RBT 20 MG/24H MOD	85JCAE-, 189, 1986
EYE-RBT 500 MG SEV	AJOPAA 29,1363,1946
EYE-RBT 500 MG/24H MLD	85JCAE -,189,1986
EYE-RBT 100 MG/4S RINSE MOD	FCTOD7 20, 573,1982

TOXICITY DATA:

ORL-CHD LDLO:2 GM/KG	ATXKA8 17,183,1958
ORL-HMN LDLO: 1400 MG/KG	NPIRI* 1,44,1974
SCU-INF LDLO:19440 MG/KG	AJCPAI 5,466,1935
ORL-RAT LD50:7060 MG/KG	TXAPA9 16, 718,1970
IHL-RAT LC50:20000 PPM/10H	NPIRI* 1,44, 1974
IPR-RAT LC50:3600 UG/KG	PHMGBN 2, 27, 1969
IVN-RAT LD50: 1440 MG/KG	TXAPA9 18, 60, 1971
IAT-RAT LD50: 11 MG/KG	TXAPA9 18, 60, 1971
IVN-MUS LD50: 1973 MG/KG	HBTXAC 1, 128, 1955
IRP-MAM LD50: 4300 MG/KG	TXAPA9 13, 358, 1968
SCU-MUS LD50: 8285 MG/KG	FA0NAU 48A, 99, 1970

SECTION 12- ECOLOGICAL INFORMATION

Data not yet available

SECTION 13- DISPOSAL CONSIDERATIONS

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Observe all federal state and local environmental regulations.

Contact a licensed professional waste disposal service to dispose of this material.

SECTION 14- TRANSPORT INFORMATION

DOMESTIC (LAND, D.O.T.)

Proper Shipping Name: AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

HAZARD CLASS: NONE

UN/NA: UN1950

PACKING GROUP: N/A

INFORMATION REPORTED FOR PRODUCT/SIZE: 11 OZ

INTERNATIONAL (WATER, I.M.O.)

Proper Shipping Name: AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

HAZARD CLASS: 2.1

UN/NA: UN1950

PACKING GROUP: N/A

INFORMATION REPORTED FOR PRODUCT/SIZE: 11 OZ

INTERNATIONAL (AIR, I.C.A.O.)

Proper Shipping Name: AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

HAZARD CLASS: 2.1

UN/NA: UN1950

PACKING GROUP: N/A

INFORMATION REPORTED FOR PRODUCT/SIZE: 11 OZ

SECTION 15- REGULATORY INFORMATION

European Information:

EC INDEX NO: 603-002-00-5

IRRITANT

R11

HIGHLY FLAMMABLE

S 7

KEEP CONTAINERS CLOSED

S 16

Reviews Standards and Regulations:

OEL=MAK

ACGIH TLV: NOT Classifiable as a human carcinogen DTLVS* TLV/BEI, 1999

ACGIH TLV-TWA 1000 PPM DTLVS* TLV/BEI, 1999

IARC Cancer Review:Animal inadequate evidence imemdt 44, 35, 1988

EPA FIFRA1988 (B) Pesticide subject to registration or re-registration

OEL-FRANCE: VME 1000 PPM (1900 MG/M3), VLE 5000 PPM (2400 MG/M3)

KEEP AWAY FROM SOURCES OF IGNITION-NO SMOKING

SECTION 16- OTHER INFORMATION

The above information is believed to be correct but does not purport to be allinclusive and shall be used only as a guide.

New England Biolabs shall not be held liable for any damage resulting from handling or from contact with the above product.