

DATE: 06/22/05 ACCT: 085511001 PAGE: 1
INDEX: A51722362 CAT NO: AC127790010 PO NBR: 28885L

**** MATERIAL SAFETY DATA SHEET ****

Methyl sulfoxide, 99.7%
96038

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Methyl sulfoxide, 99.7%
Catalog Numbers:
AC127790000, AC127790010, AC127790025, AC127790200, AC127790250, AC12779050
AC127790500, AC127791000
Synonyms:
Methyl sulfoxide; DMSO; Sulfinylbis(methane); Dimethyl sulfoxide.
Company Identification (Europe): Acros Organics BVBA
Janssen Pharmaceutica laan 3a
2440 Geel, Belgium
Company Identification (USA): Acros Organics
One Reagent Lane
Fairlawn, NJ 07410
For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032 (0) 14575211
For emergencies in the US, call CHEMTREC: 800-424-9300
For emergencies in Europe, call: 0032 (0) 14575299

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
67-68-5	Dimethyl sulfoxide	99.7	200-664-3

Hazard Symbols: XI
Risk Phrases: 36/37/38

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: clear liquid.
Caution! Causes respiratory tract irritation. Hygroscopic (absorbs moisture from the air). May be absorbed through intact skin. May cause liver and kidney damage. Causes eye and skin irritation.
Target Organs: Kidneys, liver, eyes, skin, mucous membranes.

Potential Health Effects

Eyes:
Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause chemical conjunctivitis.
Skin:
May cause irritation with burning pain, itching and redness. Substance is rapidly absorbed through the skin.
Ingestion:
May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. May cause garlic smell on the breath and body.
Inhalation:
May cause respiratory tract irritation. Can produce delayed pulmonary edema.
Chronic:
Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage. Effects may be delayed.

**** 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.
Skin:
Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion:
Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation:
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.
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.

DATE: 06/22/05 ACCT: 085511001 PAGE: 2
INDEX: A51722362 CAT NO: AC127790010 PO NBR: 28885L

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. 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:
Cool containers with flooding quantities of water until well after fire is out. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Autoignition Temperature: 215 deg C (419.00 deg F)
Flash Point: 95 deg C (203.00 deg F)
Explosion Limits, lower: 2.6 vol %
Explosion Limits, upper: 42 vol %
NFPA Rating: (estimated) Health: 1; Flammability: 1; 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. Do not flush into a sewer. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Wash clothing before reuse.

Storage:
Keep away from heat, sparks, and flame. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

**** 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 ventilation to keep airborne concentrations low.

Exposure Limits			
Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dimethyl sulfoxide	none listed	none listed	none listed

OSHA Vacated PELs:
Dimethyl sulfoxide:
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:
Wear chemical goggles.
Skin:
Wear appropriate protective gloves to prevent skin exposure.
Clothing:
Wear appropriate protective clothing to prevent skin exposure.
Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Liquid
Color: clear
Odor: slight odor - sulfurous odor - garlic-like odor
pH: Not available.
Vapor Pressure: 0.4 mm Hg at 20
Vapor Density: 2.7 (air=1)
Evaporation Rate: Not available.
Viscosity: 1.1cp @ 27 deg C
Boiling Point: 189 deg C
Freezing/Melting Point: 18.4 deg C
Decomposition Temperature: > 200 deg C
Solubility in water: Soluble.
Specific Gravity/Density: 1.1010g/cm3
Molecular Formula: C2H6OS
Molecular Weight: 78.13

**** SECTION 10 - STABILITY AND REACTIVITY ****

DATE: 06/22/05 ACCT: 085511001 PAGE: 3
INDEX: A51722362 CAT NO: AC127790010 PO NBR: 28885L

Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:
Excess heat.
Incompatibilities with Other Materials:
Strong oxidizing agents, strong acids, strong bases.
Hazardous Decomposition Products:
Carbon monoxide, oxides of sulfur, carbon dioxide.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 67-68-5: PV6210000
LD50/LC50:
CAS# 67-68-5: Draize test, rabbit, eye: 100 mg; Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 500 mg/24H Mild; Oral, mouse: LD50 = 7920 mg/kg; Oral, rat: LD50 = 14500 mg/kg; Skin, rat: LD50 = 40 gm/kg.
Carcinogenicity:
Dimethyl sulfoxide -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information available.
Teratogenicity:
No information available.
Reproductive Effects:
No information available.
Neurotoxicity:
No information available.
Mutagenicity:
No information available.
Other Studies:
See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Other
For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

**** 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: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
No information available
Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 67-68-5 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.
SARA
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPO.
SARA Codes
CAS # 67-68-5: acute, flammable.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous

DATE: 06/22/05 ACCT: 085511001 PAGE: 4
INDEX: A51722362 CAT NO: AC127790010 PO NBR: 28885L

Substances 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:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
Dimethyl sulfoxide is not present on state lists from CA, PA, MN, MA, FL, or NJ.
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: XI
Risk Phrases:

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

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 67-68-5: 1
United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada
CAS# 67-68-5 is listed on Canada's DSL List.
This product has a WHMIS classification of D2B.
CAS# 67-68-5 is listed on Canada's Ingredient Disclosure List.
Exposure Limits
CAS# 67-68-5: OEL-RUSSIA:STEL 20 mg/m3
OEL-SWITZERLAND:TWA 50 ppm (160 mg/m3);Skin

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 9/02/1997 Revision #5 Date: 2/04/2002

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

RECEIVED

JUN 30 2005

Safety and Environmental
Health