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

SPERMINE, 97%

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

MSDS Name: SPERMINE, 97%
Catalog Numbers: 13275-0000, 13275-0010, 13275-2500
Synonyms: Acros Organics BVBA
Janssen Pharmaceuticala 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 *****

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
<th>Haz Symbols</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>71-44-3</td>
<td>SPERMINE</td>
<td>97%</td>
<td>200-754-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazard Symbols: XN
Risk Phrases: 20/21/22

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

EMERGENCY OVERVIEW
Harmful by inhalation, in contact with skin and if swallowed.

Potential Health Effects
Eye:
Contact with eyes may cause severe irritation, and possible eye burns.

Skin:
May cause severe irritation and possible burns.

Ingestion:
Not available.

Inhalation:
May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract.

Chronic:
Not available.

***** SECTION 4 - FIRST AID MEASURES *****

Eyes:
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. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

Ingestion:
Do not induce vomiting.

Inhalation:
Not available.

Notes to Physician:

***** SECTION 5 - FIRE FIGHTING MEASURES *****

General Information:
Not available.
Extinguishing Media:
Not available.

***** SECTION 6 - ACCIDENTAL RELEASE MEASURES *****

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

Spills/Leaks:
Not available.

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

Handling:
Not available.
Storage:
Keep refrigerated. (Store below 4°C/39°F.)

***** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION *****

Engineering Controls:
Personal Protective Equipment
eyes: Not available.  
Skin: Not available.  
Clothing: Not available.  
Respirators: Not available.

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

Physical State: Solid  
Color: white to pale yellow  
Odor: Not available.  
PH: Not available.  
Vapor Pressure: Not available.  
Viscosity: Not available.  
Boiling Point: 150.0 - 150.0 deg C @ 5.00mm  
Freezing/Melting Point: 26.00 - 30.00 deg C  
Autoignition Temperature: Not available.  
Flash Point: Not available.  
Explosion Limits, lower: Not available.  
Explosion Limits, upper: Not available.  
Decomposition Temperature:  
Solubility in water:  
Molecular Formula: C10H26N4  
Molecular Weight: 202.34

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

Chemical Stability: Not available.  
Conditions to Avoid: Not available.  
Incompatibilities with Other Materials: Not available.  
Hazardous Decomposition Products: Not available.  
Hazardous Polymerization: Not available.

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

RTECS#:  
CAS# 71-44-3: EJ7175000  
LD50/LC50: Not available.  
Carcinogenicity: SPERMINE -  
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
See actual entry in RTECS for complete information.

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

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

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

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

IATA  
Shipping Name: CORROSIVE LIQUID, N.O.S.  
Hazard Class: 8  
UN Number: 1760  
Packing Group: II  
IMO  
Shipping Name: CORROSIVE LIQUID, N.O.S.  
Hazard Class: 8  
UN Number: 1760  
Packing Group: II  
RID/ADR  
Shipping Name: CORROSIVE LIQUID, N.O.S.  
Hazard Class: 8  
UN Number: 1760  
Packing group: II

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

European/International Regulations  
European Labeling in Accordance with EC Directives  
Hazard Symbols: KN  
Risk Phrases: R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
Safety Phrases: S 37/39 Wear suitable gloves and eye/face protection.  
WGK (Water Danger/Protection)  
CAS# 71-44-3: No information available.  
United Kingdom Occupational Exposure Limits  
United Kingdom Maximum Exposure Limits  
Canada  
CAS# 71-44-3 is listed on Canada's NDSL List.  
CAS# 71-44-3 is not listed on Canada's Incoedisclosure List.
CAS# 71-44-3 is listed on the TSCA inventory.

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

MSDS Creation Date: 7/16/1996 Revision #0 Date: Original.

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, however arising, even if the company has been advised of the possibility of such damages.

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