



a member of the Roche Group

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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MSDS NUMBER: 00231463

SUBSTANCE: AEC

PRODUCT NUMBER(S): 253-2006

PRODUCT USE: clinical/research

CREATION DATE: Dec 19 2005

REVISION DATE: Mar 05 2009

2. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=2 REACTIVITY=0

EC CLASSIFICATION:

Xi Irritant



RISK PHRASES:

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

EMERGENCY OVERVIEW:

COLOR: golden to reddish-brown

PHYSICAL FORM: liquid

ODOR: almond odor

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, allergic reactions

PHYSICAL HAZARDS: Flash back hazard. Combustible liquid and vapor.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, cough, allergic reactions, wheezing, difficulty breathing

LONG TERM EXPOSURE: allergic reactions

SKIN CONTACT:**SHORT TERM EXPOSURE:** irritation, allergic reactions, absorption may occur, garlic breath, garlic odor**LONG TERM EXPOSURE:** irritation, allergic reactions**EYE CONTACT:****SHORT TERM EXPOSURE:** irritation, blurred vision**LONG TERM EXPOSURE:** irritation**INGESTION:****SHORT TERM EXPOSURE:** gastrointestinal irritation, allergic reactions, nausea, vomiting**LONG TERM EXPOSURE:** allergic reactions

3. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: DIMETHYL SULFOXIDE**CAS NUMBER:** 67-68-5**EC NUMBER (EINECS):** 200-664-3**PERCENTAGE:** 30-60**EC CLASSIFICATION:** Xi**RISK PHRASES:** 36-37-38**COMPONENT:** NON-HAZARDOUS**CAS NUMBER:** Not assigned.**EC NUMBER:** Not assigned.**PERCENTAGE:** 30-60**EC CLASSIFICATION:** No classification assigned.**COMPONENT:** SODIUM METABISULFITE**CAS NUMBER:** 7681-57-4**EC NUMBER (EINECS):** 231-673-0**PERCENTAGE:** 1-5**EC CLASSIFICATION:** Xn; Xi**RISK PHRASES:** 22-31-41**COMPONENT:** 3-AMINO-9-ETHYLCARBAZOLE**CAS NUMBER:** 132-32-1**EC NUMBER (EINECS):** 205-057-7**PERCENTAGE:** <1**EC CLASSIFICATION:** No classification assigned.**COMPONENT:** ACETIC ACID**CAS NUMBER:** 64-19-7**EC NUMBER (EINECS):** 200-580-7**PERCENTAGE:** <1**EC CLASSIFICATION:** Flammable; C**RISK PHRASES:** 10-35

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Get medical attention, if needed.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Moderate fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical, regular foam, water

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products.

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Yes

FLASH POINT: 192 F (88.9 C) (CC, DIMETHYL SULFOXIDE)

FLAMMABILITY CLASS (OSHA): IIIA

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition or combustion products: oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store between 2 C and 8 C. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. See original container for storage recommendations. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

DIMETHYL SULFOXIDE:

DFG MAK (cutaneous absorption danger)

250 ppm AIHA WEEL TWA

SODIUM METABISULFITE:

5 mg/m³ OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

5 mg/m³ ACGIH TWA

5 mg/m³ NIOSH recommended TWA 10 hour(s)

5 mg/m³ UK WEL TWA

VENTILATION: Provide adequate ventilation. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Safety glasses or goggles are recommended when there is a potential for eye contact. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Lab coat or apron.

GLOVES: Wear appropriate chemical resistant gloves.

PROTECTIVE MATERIAL TYPES: latex, nitrile

RESPIRATOR: No respirator is required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: golden to reddish-brown

ODOR: almond odor

BOILING POINT: 372 F (189 C) (DIMETHYL SULFOXIDE)

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY (air=1): 2.7 (DIMETHYL SULFOXIDE)

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: miscible

PH: weakly acidic

VOLATILITY: 40-60%

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may

rupture or explode if exposed to heat. Keep out of water supplies and sewers.

INCOMPATIBILITIES: oxidizing materials, acids, reducing agents

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

DIMETHYL SULFOXIDE:

IRRITATION DATA: 10 mg/24 hour(s) open skin-rabbit mild; 500 mg/24 hour(s) skin-rabbit mild; 100 mg eyes-rabbit; 500 mg/24 hour(s) eyes-rabbit mild; 100 mg skin-rabbit mild; 100 mg eyes-rabbit mild

TOXICITY DATA: 50 gm/kg skin-mouse LD50; 14500 mg/kg oral-rat LD50

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Slightly Toxic: ingestion

Relatively Non-toxic: dermal absorption

ADDITIONAL DATA: Interactions with drugs may occur.

SODIUM METABISULFITE:

IRRITATION DATA: 500 mg skin-rabbit; 100 mg/24 hour(s) eyes-rabbit mild

TOXICITY DATA: >1 gm/kg skin-guinea pig LD50; 1131 mg/kg oral-rat LD50

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Metabisulfites); ACGIH: A4 -Not Classifiable as a Human Carcinogen

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Moderately Toxic: ingestion

TARGET ORGANS: immune system (sensitizer)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: Not regulated.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: Not regulated.

LAND TRANSPORT ADR: Not regulated.

LAND TRANSPORT RID: Not regulated.

AIR TRANSPORT IATA: Not regulated.

AIR TRANSPORT ICAO: Not regulated.

MARITIME TRANSPORT IMDG: Not regulated.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

ACETIC ACID: 5000 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: Yes

CHRONIC: Yes

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

STATE REGULATIONS:

California Proposition 65:

Known to the state of California to cause the following:

3-Amino-9-ethylcarbazole hydrochloride

Cancer (Jul 01, 1989)

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: D2A, D2B.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED):

Xi	Irritant
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DANGER/HAZARD SYMBOL:

**EC RISK AND SAFETY PHRASES:**

R 36/37/38	Irritating to eyes, respiratory system and skin.
S 24/25	Avoid contact with skin and eyes.
S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 60	This material and its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

EC RISK PHRASES:

R 10	Flammable.
R 22	Harmful if swallowed.
R 31	Contact with acids liberates toxic gas.
R 35	Causes severe burns.
R 36	Irritating to eyes.
R 36/37/38	Irritating to eyes, respiratory system and skin.
R 37	Irritating to respiratory system.
R 38	Irritating to skin.
R 41	Risk of serious damage to eyes.

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