

# MATERIAL SAFETY DATA SHEET

MSDS DATE: 15/06/06

FILE NO.: ALX-270-047

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Aristolochic acid  
**SYNONYMS:** 8-Methoxy-6-nitrophenanthrol(3,4-d)-1,3-dioxide-5-carboxylic acid  
**PRODUCT CODES:** ALX-270-047

**MANUFACTURER:** ALEXIS Corporation  
**ADDRESS:** Industriestrasse 17  
CH-4415 Lausen  
Switzerland

**TELEPHONE:** +41 61 926 8989  
**FAX PHONE:** +41 61 926 8979  
**WEBSITE:** www.axxora.com

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## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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<u>Formula:</u>	<u>CAS #</u>	<u>EC #</u>	<u>Annex I Index #</u>
C <sub>17</sub> H <sub>11</sub> NO <sub>7</sub>	313-67-7	N/A	N/A

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## SECTION 3: HAZARDS IDENTIFICATION

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**ACUTE HEALTH EFFECTS:** TOXIC by inhalation, ingestion, or skin absorption. May be CARCINOGENIC. May be MUTAGENIC.

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## SECTION 4: FIRST AID MEASURES

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**EYES:** Rinse immediately with plenty of water for 15 minutes. Check for and remove any contact lenses. Seek medical attention if symptoms appear.

**SKIN:** Wash immediately with water for 15 minutes. Remove contaminated clothing. Seek medical attention if symptoms appear.

**INGESTION:** Rinse mouth with water. Do not induce vomiting. Seek medical attention if symptoms appear. Provide MSDS and label information if possible.

**INHALATION:** Take into fresh air. If breathing is difficult, administer oxygen. Get medical attention.

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## SECTION 5: FIRE FIGHTING MEASURES

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**EXTINGUISHING MEDIA:** Water spray, water foam, polymer foam, carbon dioxide, dry chemicals.

**SPECIAL FIRE FIGHTING PROCEDURES:** In case of fire, watch out for the formation of toxic smoke and gases. Wear self-contained respiration equipment. Prevent contact with skin and eyes.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** May be combustible at high temperatures.

**HAZARDOUS DECOMPOSITION PRODUCTS:** N/A

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS:** Evacuate area. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

**ACCIDENTAL RELEASE MEASURES:** Avoid formation of dust, sweep up spill and place in sealed container and hold for disposal. Ventilate area and wash spill site after material pickup is complete.

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## SECTION 7: HANDLING AND STORAGE

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**HANDLING AND STORAGE:** Keep locked up. Keep away from heat, sources of ignition and incompatibles such as oxidizing agents. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Avoid contact with skin and eyes; do not breathe dust. Avoid prolonged or repeated exposure. Immediately remove all contaminated clothing. Wash hands before breaks and after work. Avoid eating, drinking and storage of food in the work room. Store tightly sealed at +20°C.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** Use only in chemical fume hood. Safety shower and eye bath.  
**VENTILATION:** Government approved respirator.  
**EYE PROTECTION:** Chemical safety goggles.  
**SKIN PROTECTION:** Compatible gloves, protective coat or clothing.  
**SECTION 8 NOTES:** Wash thoroughly after handling. Wash contaminated clothing before reuse.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Yellow solid.  
**ODOR:** N/A  
**pH AS SUPPLIED:** N/A  
**BOILING POINT:** N/A  
**MELTING POINT:** N/A  
**FREEZING POINT:** N/A  
**VAPOR PRESSURE (mmHg):** N/A  
**VAPOR DENSITY (AIR = 1):** N/A  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** N/A  
**EVAPORATION RATE:** N/A  
**BASIS (=1):** N/A  
**SOLUBILITY:** Soluble in DMSO or 100% ethanol.  
**MOLECULAR WEIGHT:** 341.3

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## SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:** Stable. Avoid strong oxidizing agents.  
**HAZARDOUS DECOMPOSITION:** Carbon monoxide, carbon dioxide, nitrogen oxides.  
**HAZARDOUS POLYMERIZATION:** Will not occur.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**RTECS # :** CF3325000

**TOXICOLOGICAL INFORMATION:** TOXIC. Harmful by inhalation, ingestion, or skin absorption. Toxic for humans or animal life. May cause tumors. In vitro studies in mammal cells have shown mutagenic action. May cause skin and eye irritations. May cause irritation to mucous membranes and upper respiratory tract. Target organs are kidney, ureter, bladder (changes in tubules including renal failure, acute tubular necrosis have been observed), lungs, thorax and respiratory tract. May induce somnolence; ataxia. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

**LD50:** Human [intravenous]: 3 mg/kg  
Rat [oral]: 184 mg/kg  
Rat [intravenous]: 74 mg/kg  
Mouse [oral]: 55'900 µg/kg  
Mouse [intravenous]: 38'400 µg/kg

**CHRONIC EXPOSURE:** Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**CHRONIC EXPOSURE-CARCINOGEN:** Classified 3 (Possible for human.) by European Union.  
Mouse oral, 105 mg/kg, exposure time: 3 weeks, frequency: C  
Result: tumorigenic. Lungs, thorax, respiratory tract and gastrointestinal tract.

**CHRONIC EXPOSURE-MUTAGEN:** Classified POSSIBLE for human.  
Mutagenic for mammalian germ and somatic cells based on in vitro studies.  
Human lymphocyte, 1 mg/l; Mutation test: cytogenic analysis.  
Human lymphocyte, 5 mg/l; Mutation test: Sister chromatid exchange  
Rat oral, 40 mg/kg, exposure time: 2 weeks; Mutation test: DNA  
Rat oral, 45 mg/kg; Mutation test: mutation in somatic cells.  
Rat subcutaneous, 320 µg/kg; Mutation test: mutation in somatic cells.

**CHRONIC EXPOSURE-TERATOGEN:** Not available.

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## SECTION 12: ECOLOGICAL INFORMATION

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ECOLOGICAL INFORMATION: N/A

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## SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## SECTION 14: TRANSPORT INFORMATION

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### INTERNATIONAL TRANSPORT REGULATIONS:

LAND – ROAD/RAILWAY: ADR/RID: Not available.  
SEA: IMDG: Not available.  
AIR: IATA-DGR: Not available.  
SPECIAL PROVISIONS FOR TRANSPORT: N/A

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## SECTION 15: REGULATORY INFORMATION

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES:

SYMBOL OF DANGER: T, toxic  
R-PHRASES: R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.  
R40 - Possible risks of irreversible effects.  
R45 - May cause cancer.  
R46 - May cause heritable genetic damage.  
S-PHRASES: S7 - Keep container tightly closed.  
S22 - Do not breathe dust.  
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
U.S. FEDERAL REGULATIONS: Not available.  
HCS CLASSIFICATION: CLASS: May cause cancer.  
CLASS: Toxic.  
CLASS: Target organ effects.  
WHMIS (CANADA): CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).  
CLASS D-2B: Material causing other toxic effects (TOXIC).

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## SECTION 16: OTHER INFORMATION

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DISCLAIMER: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Alexis Corporation shall not be held liable for any damage resulting from handling or from contact with the above product.

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