



MATERIAL SAFETY DATA SHEET

AAPH

Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Revision: 07/26/2011
Supersedes Revision: 09/21/2007

1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 82235
Product Name: AAPH
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com
Synonyms: 2,2'-azobis-2-methyl-propanimidamide, dihydrochloride;

2. Hazards Identification

Emergency Overview: Harmful.
Avoid contact and inhalation.
Target organ(s): skin.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Harmful if swallowed.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation or skin absorption.
May cause eye, skin, or respiratory system irritation.
May cause sensitization by skin contact.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: May cause allergic skin reaction.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. AAPH	2997-92-4	100.0 %	221-070-0	R22-43	UE4575500

4. First Aid Measures

Emergency and First Aid Procedures:
If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt:	No data.	
Explosive Limits:	LEL: No data.	UEL: No data.
Autoignition Pt:	No data available.	
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.	
Flammable Properties and Hazards:	No data available.	
Hazardous Combustion Products:	No data available.	
Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.	
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.	

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Transfer to a chemical waste container for disposal.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. AAPH	2997-92-4	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Melting Point:	No data.
Boiling Point:	No data.

Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Solubility Notes:	~10 mg/ml in PBS (pH 7.2);
Percent Volatile:	No data.
Formula:	C ₈ H ₁₈ N ₆ · 2HCl
Molecular Weight:	271.20
Appearance and Odor:	A crystalline solid

10. Stability and Reactivity

Stability:	Unstable [<input type="checkbox"/>] Stable [<input checked="" type="checkbox"/>]
Conditions To Avoid - Instability:	heat
Incompatibility - Materials To Avoid:	strong acids strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide hydrogen chloride gas nitrogen oxides
Possibility of Hazardous Reactions:	Will occur [<input type="checkbox"/>] Will not occur [<input checked="" type="checkbox"/>]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

The toxicological effects of this product have not been thoroughly studied.

AAPH - Toxicity Data: Skin LD50 (rat): >5,900 mg/kg; Oral LD50 (rat): 410 mg/kg; Irritation Data: Skin (rabbit): 500 mg mild;

Chronic Toxicological Effects:	AAPH - Investigated as a mutagen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. AAPH RTECS Number: UE4575500
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Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. AAPH	2997-92-4	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

Waste Disposal Method:	Dispose in accordance with local, state, and federal regulations.
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14. Transport Information

LAND TRANSPORT (US DOT)	
DOT Proper Shipping Name	Self-heating solid, organic, n.o.s. (2,2'-Azobis(2-amidinopropane)dihydrochloride)



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DOT Hazard Class: 4.2
DOT Hazard Label: SPONTANEOUSLY COMBUSTIBLE
UN/NA Number: 3088
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Self-heating solid, organic, n.o.s. (2,2'-Azobis(2-amidinopropane)dihydrochloride)
UN Number: 3088
Hazard Class: 4.2 - SPONTANEOUSLY COMBUSTIBLE
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Self-heating solid, organic, n.o.s. (2,2'-Azobis(2-amidinopropane)dihydrochloride)
UN Number: 3088
Hazard Class: 4.2 - SPONTANEOUSLY COMBUSTIBLE
Packing Group: II
IATA Classification: 4.2

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes Xn: Harmful

European Community Risk and Safety Phrases

- R22 - Harmful if swallowed.
- R43 - May cause sensitization by skin contact.
- S22 - Do not breathe dust.
- S24/25 - Avoid contact with skin and eyes.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. AAPH	2997-92-4	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. AAPH	2997-92-4	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

DISCLAIMER: This information 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required