

1-Adamantanemethylamine

sc-222650



The Power to Question

Material Safety Data Sheet

Hazard Alert Code
Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

1-Adamantanemethylamine

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

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EMERGENCY

ChemWatch
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(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

C11-H19-N, 1-(aminomethyl)adamantane, adamantine-methylamine

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	1		
Toxicity	2		
Body Contact	4		Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4
Reactivity	1		
Chronic	2		



CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Causes severe burns.

Risk of serious damage to eyes.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow.

Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow.

■ Accidental ingestion of the material may be damaging to the health of the individual.

■ Amines without benzene rings when swallowed are absorbed throughout the gut.

Corrosive action may cause damage throughout the gastrointestinal tract.

■ The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.

EYE

■ If applied to the eyes, this material causes severe eye damage.

■ Direct eye contact with corrosive bases can cause pain and burns.

There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris.

■ Vapors of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in "halos" around lights.

This effect is temporary, lasting only for a few hours.

■ The material can produce severe chemical burns to the eye following direct contact.

Vapors or mists may be extremely irritating.

SKIN

■ The material can produce severe chemical burns following direct contact with the skin.

■ Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

■ Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop.

The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.

■ Volatile amine vapors produce irritation and inflammation of the skin.

Direct contact can cause burns.

■ Open cuts, abraded or irritated skin should not be exposed to this material.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ The material can cause respiratory irritation in some persons.

The body's response to such irritation can cause further lung damage.

■ Inhaling corrosive bases may irritate the respiratory tract.

Symptoms include cough, choking, pain and damage to the mucous membrane.

■ Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

■ Inhalation of amine vapors may cause irritation of the mucous membrane of the nose and throat, and lung irritation with respiratory distress and cough.

Swelling and inflammation of the respiratory tract is seen in serious cases; with headache, nausea, faintness and anxiety.

■ Inhalation hazard is increased at higher temperatures.

CHRONIC HEALTH EFFECTS

■ Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative

changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
1-adamantanemethylamine	17768-41-1	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE

If this product comes in contact with the eyes

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

SKIN

If skin or hair contact occurs

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Inhalation of vapors or aerosols (mists, fumes) may cause lung oedema.
- Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
- As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
- Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.

NOTES TO PHYSICIAN

- Treat symptomatically.

For acute or short-term repeated exposures to highly alkaline materials

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.

Section 5 - FIRE FIGHTING MEASURES

Vapor Pressure (mmHG)	Not available
Upper Explosive Limit (%)	Not available
Specific Gravity (water=1)	0.933
Lower Explosive Limit (%)	Not available

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- Check regularly for spills and leaks.
- Clean up all spills immediately.
- Avoid breathing vapors and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- DO NOT allow clothing wet with material to stay in contact with skin
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- WARNING To avoid violent reaction, ALWAYS add material to water and NEVER water to material.

RECOMMENDED STORAGE METHODS

- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

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STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- DO NOT store near acids, or oxidising agents
- No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- 1-adamantanemethylamine CAS17768-41-1

PERSONAL PROTECTION



RESPIRATOR

- Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 1432000 & 1492001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure
- Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.

HANDS/FEET

- Elbow length PVC gloves
 - When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include
- frequency and duration of contact,
 - chemical resistance of glove material,
 - glove thickness and
 - dexterity
 - Neoprene gloves

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Floats on water.

Corrosive.

State	Liquid	Molecular Weight	165.28
Melting Range (°F)	Not available	Viscosity	Not Available
Boiling Range (°F)	181- 185 (0.3 mm)	Solubility in water (g/L)	Immiscible
Flash Point (°F)	198	pH (1% solution)	Not applicable.
Decomposition Temp (°F)	Not available.	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapor Pressure (mmHG)	Not available
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	0.933
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	>1
Volatile Component (%vol)	Not available	Evaporation Rate	Not available

APPEARANCE

Liquid; does not mix with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

STORAGE INCOMPATIBILITY

- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

- Avoid contact with copper, aluminium and their alloys.
- Avoid reaction with oxidising agents

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

1-adamantanemethylamine

TOXICITY AND IRRITATION

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.
 - Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.
- No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
1-adamantanemethylamine	HIGH	No Data Available	LOW	MED

Section 13 - DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

A. General Product Information

Corrosivity characteristic: use EPA hazardous waste number D002 (waste code C)

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Treat and neutralise at an approved treatment plant.
- Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).

- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols:	None	Hazard class or Division:	8
Identification Numbers:	UN2735	PG:	II
Label Codes:	8	Special provisions:	B2, IB2, T11, TP1, TP27
Packaging: Exceptions:	154	Packaging: Non-bulk:	202
Packaging: Exceptions:	154	Quantity limitations: Passenger aircraft/rail:	1 L
Quantity Limitations: Cargo aircraft only:	30 L	Vessel stowage: Location:	A
Vessel stowage: Other:	52		

Hazardous materials descriptions and proper shipping names:

Amines, liquid, corrosive, n.o.s., or Polyamines, liquid, corrosive, n.o.s.

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	2735	Packing Group:	II
Special provisions:	A3		
Cargo Only			
Packing Instructions:	855	Maximum Qty/Pack:	30 L
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	851	Maximum Qty/Pack:	1 L
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	Y840	Maximum Qty/Pack:	0.5 L

Shipping name:AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(contains 1-adamantanemethylamine)

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	2735	Packing Group:	II
EMS Number:	F-A,S-B	Special provisions:	274
Limited Quantities:	1 L		

Shipping name:AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(contains 1-adamantanemethylamine)

Section 15 - REGULATORY INFORMATION

No data for 1-adamantanemethylamine (CAS: , 17768-41-1)

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

- Inhalation and/or ingestion may produce health damage*.
- Cumulative effects may result following exposure*.

* (limited evidence).

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
1- adamantanemethylamine	17768- 41- 1	Xn; R22 Xi; R38

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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