DIMETHYL AMMONIUM CHLORIDE

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
DIMETHYL AMMONIUM CHLORIDE

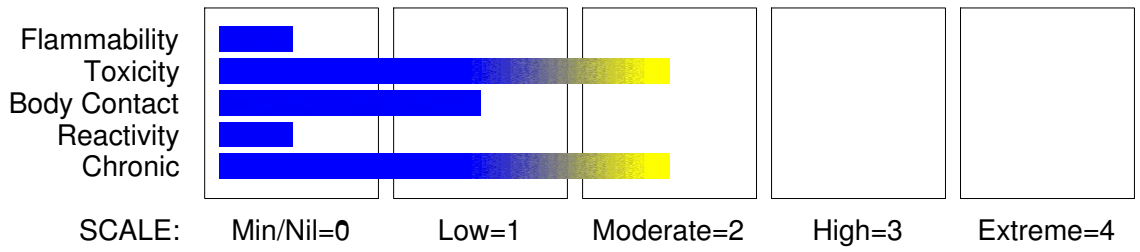
OTHER NAMES

"C2-H7-N. Cl-H", "C2-H7-N. H-Cl", (CH3)2-NH.HCl, "dimethylammonium chloride", "hydrochloric acid dimethylamine", "methanamine,

PRODUCT USE
As accelerator in vulcanizing rubber, tanning, in the manufacture of detergent soaps, or attracting boll weevils to exterminate them.
As a reagent for magnesium (Mg).

SUPPLIER
Company: S D FINE- CHEM LIMITED
Address:
315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,
MUMBAI- 400030.INDIA.
technical@sdfine.com
Telephone: 91- 22- 24959898
Telephone: 91- 22- 24959899
Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification
Acute Toxicity (Oral) Category 4

continued...

Skin Sensitizer Category 1

EMERGENCY OVERVIEW

HAZARD

WARNING
Determined by using GHS criteria:
H302 H317
Harmful if swallowed
May cause allergic skin reaction

PRECAUTIONARY STATEMENTS

Prevention

Avoid breathing dust/fume/gas/mist/vapours/spray.
Contaminated clothing should not be allowed out of the workplace.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response

Wash contaminated clothing before reuse.
IF ON SKIN: Gently wash with plenty of soap and water.
If skin irritation or rash occurs, seek medical advice/attention.
Specific treatment: refer to Label or MSDS.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
dimethylamine hydrochloride	506-59-2	98
sulphated ash (impurities)		0.05

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.
· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
· For advice, contact a Poisons Information Centre or a doctor.

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· Urgent hospital treatment is likely to be needed.
· In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
· If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.
· If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.
· Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
· INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
NOTE: Wear a protective glove when inducing vomiting by mechanical means.

EYE

If this product comes in contact with the eyes:
· Wash out immediately with fresh 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.
· If pain persists or recurs seek medical attention.
· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:
· Immediately remove all contaminated clothing, including footwear.
· Flush skin and hair with running water (and soap if available).
· Seek medical attention in event of irritation.

INHALED

· If fumes or combustion products are inhaled remove from contaminated area.
· Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves for fire only.
· Prevent, by any means available, spillage from entering drains or water courses.
Use fire fighting procedures suitable for surrounding area.
DO NOT approach containers suspected to be hot.
If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

Not considered to be a significant fire risk.

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Decomposition may produce toxic fumes of: hydrogen chloride, nitrogen oxides (NOx), carbon monoxide (CO).

Personal Protective Equipment

Gas tight chemical resistant suit.
Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

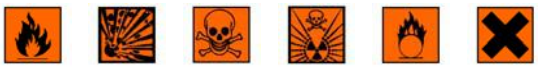
MINOR SPILLS

Clean up all spills immediately.
Wear impervious gloves and safety glasses.
Use dry clean up procedures and avoid generating dust.
Vacuum up or sweep up.
Wipe up.
Place in suitable containers for disposal.

MAJOR SPILLS

Alert Fire Brigade and tell them location and nature of hazard.
Clear area of personnel.
Wear impervious gloves and safety glasses.
Prevent, by any means available, spillage from entering drains or water courses.
If contamination of drains or waterways occurs, advise emergency services.
Avoid generating dust.
Collect recoverable product into labelled containers for recycling.
Collect residues and seal in labelled drums for disposal.
Wash spill area with large quantities of water.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+	X	+	X	O	+

+: May be stored together
O: May be stored together with specific preventions
X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Use good occupational work practice.
Avoid generating and breathing dust.
Use in a well-ventilated area.

continued...

Avoid contact with skin and eyes.
Wear personal protective equipment when handling.
When handling, DO NOT eat, drink or smoke.
Avoid contact with incompatible materials.
Avoid contact with moisture.
Avoid physical damage to containers.
Wash hands with soap and water after handling.
Launder contaminated clothing before re-use.

SUITABLE CONTAINER

· Check that containers are clearly labelled.
Glass container.
Plastic container.
Plastic drum.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers.
Avoid contamination of water, foodstuffs, feed or seed.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.
Store in original containers.
Store away from sources of heat or ignition / naked lights.
Store in a cool, dry place.
Store away from oxidising materials.
Keep containers securely sealed.
Keep dry.
Check regularly for spills and leaks.

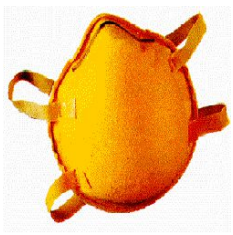
Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records
• dimethylamine hydrochloride: CAS:506- 59- 2

PERSONAL PROTECTION





EYE

· Safety glasses.
· Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account

continued...

of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET
Wear general protective gloves, eg. light weight rubber gloves.

OTHER
· Eyewash unit.
Overalls.
Laboratory coat.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult
your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS
If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator.
General exhaust is adequate under normal operating conditions.
Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
White crystals; hygroscopic. Soluble in water, alcohol, chloroform.
Practically insoluble in ether.
Material is hygroscopic, absorbs moisture from surrounding air.

PHYSICAL PROPERTIES
Solid.
Mixes with water.

Molecular Weight: 81.56
Melting Range (°C): 171
Solubility in water (g/L): Miscible
pH (1% solution): 3- 5 (5% aqueous)
Volatile Component (%vol): Not applicable

Boiling Range (°C): Not available.
Specific Gravity (water=1): 0.6
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not applicable
Evaporation Rate: Not applicable

continued...

Relative Vapour Density (air=1): Not applicable
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Divided solid

Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of incompatible materials.
Decomposes in the presence of moisture to produce corrosive acid.
Product is considered stable under normal handling conditions.
Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
Considered an unlikely route of entry in commercial/industrial environments.
Ingestion may result in nausea, abdominal irritation, pain and vomiting.

EYE
Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
The dust may produce eye discomfort causing transient smarting, blinking.

SKIN
The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Many amine compounds are sensitisers and some are absorbed through intact skin.

INHALED
The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

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CHRONIC HEALTH EFFECTS

There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals.
Principal routes of exposure are usually by skin contact/absorption with the material and inhalation of generated dust.
The substance exhibits anticholinesterase activity, in vitro, at slightly acid pH.
The ability of the substance to undergo N-nitrosation in the presence of sodium nitrite has been suggested in rat studies following gastric entubation. The effect of such administration was severe liver necrosis and an elevation of serum glutamic-pyruvic transaminases and glutamic-oxaloacetic transaminase levels. These effects, attributed to in vivo formation of dimethylnitrosamine were completely inhibited by simultaneous entubation of sodium ascorbate. [Cardesa etal; Proceedings of the Society for Experimental Biology and Medicine, Vol. 145, pp 124-128 1974]
It has been estimated that a man eating a 300 gm. meal containing 12 mg of dimethylamine hydrochloride and 60 mg sodium nitrite (a common food preservative) may form up to 3 micrograms of dimethylnitrosamine, intragastrically. This may be an active carcinogen. [Mirvish SS; Journal of the National Cancer Institute, Vol. 44, pp 633-639, 1970]
Secondary amines, eg. piperazine, morpholine when given with nitrites produce lung adenomas, presumably because of their ability to form carcinogenic nitrosamines in the stomach. Dimethylamine hydrochloride does not exhibit this morphology, presumably, due to the strong basicity of the this amine and its relatively low conversion rate. [Greenblatt, Journal of the National Cancer Institute, Vol. 46 pp 1029-104, 1971]

TOXICITY AND IRRITATION

TOXICITY	IRRITATION
Oral (rat) LD50: 1070 mg/kg	Nil Reported
Oral (rabbit)LD50: 1600 mg/kg	

Section 12 - ECOLOGICAL INFORMATION

No data for dimethylamine hydrochloride.

Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.
Consult manufacturer for recycling options.
Consult State Land Waste Management Authority for disposal.
Decontaminate empty containers.
Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,

continued...

IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

dimethylamine hydrochloride (CAS: 506-59-2) is found on the following regulatory lists;
The Australia Group Export Control List: Chemical Weapons Precursors
WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established

Section 16 - OTHER INFORMATION

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