GUANIDINE CARBONATE

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
GUANIDINE CARBONATE

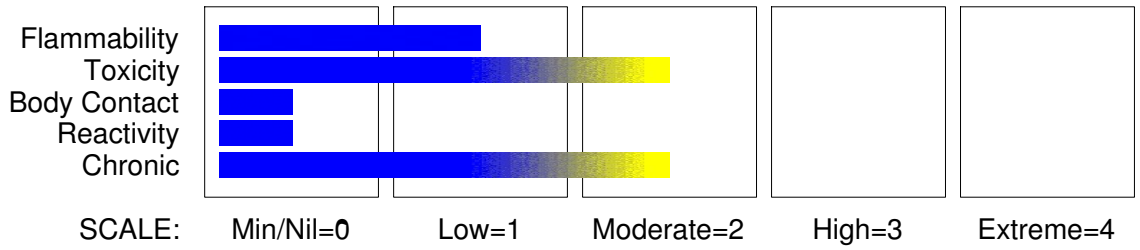
OTHER NAMES

(CH5N3)2.H2CO3, "carbonic acid, compd, with guanidine", AI3-14631, "bisguanidinium carbomate", "diguanidinium carbonate", "guanidinium carbonate", "guanadine carbonate (sic)"

PRODUCT USE
Reagent.

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...

EMERGENCY OVERVIEW

HAZARD

WARNING
Determined by using GHS criteria:
H302
Harmful if swallowed

PRECAUTIONARY STATEMENTS

Prevention

Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response

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	%
guanidine carbonate	593-85-1	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

· 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.
· Observe the patient carefully.
· Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
· Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
· Seek medical advice.

continued...

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 or hair contact occurs:
· Flush skin and hair with running water (and soap if available).
· Seek medical attention in event of irritation.

INHALED

· If dust is inhaled, remove from contaminated area.
· Encourage patient to blow nose to ensure clear passage of breathing.
· If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.
Dry chemical powder.
Foam.
Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves.
· Prevent, by any means available, spillage from entering drains or water courses.
Use water delivered as a fine spray to control the fire and cool adjacent area.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

· Solid which exhibits difficult combustion or is difficult to ignite.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
· Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
· Build-up of electrostatic charge may be prevented by bonding and grounding.
· Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
· All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.

continued...

Decomposes on heating and produces toxic fumes of nitrogen oxides (NOx) and ammonia (NH3).

FIRE INCOMPATIBILITY
Avoid contamination with strong oxidising agents, particularly peroxides, perchlorates, etc. as violent decomposition / detonation may result.

Section 6 - ACCIDENTAL RELEASE MEASURES

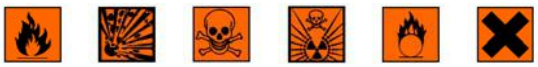
EMERGENCY PROCEDURES

MINOR SPILLS
Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Use dry clean up procedures and avoid generating dust.
Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS
Clear area of personnel and move upwind.
Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.

No smoking or naked lights within area.
Avoid generating dust.
Stop leak if safe to do so.
Collect recoverable product into labelled containers for recycling.
Collect residues and seal in labelled drums for disposal.
Wash area down with large quantity of water and prevent runoff into drains.
If contamination of drains or waterways occurs, advise emergency services.
After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+	X	+	X	0	+

+: 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.

continued...

Avoid smoking, naked lights or ignition sources.
Avoid sources of heat.
Use in a well-ventilated area.
Use good occupational work practice.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

SUITABLE CONTAINER

· Check that containers are clearly labelled.
Packaging as recommended by manufacturer.
Multi-ply woven plastic or paper bag with sealed plastic liner
NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.
Polyethylene or polypropylene container.
Glass container or Polylined drum.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.
Store away from incompatible materials.
Store away from foodstuff containers.
Store at ambient temperatures.
No smoking, naked lights, heat or ignition sources.
Keep containers securely sealed.
Protect containers against physical damage.
Check regularly for spills and leaks.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

• guanidine carbonate: CAS:593- 85- 1 CAS:90332- 86- 8 CAS:3425- 08- 9

MATERIAL DATA

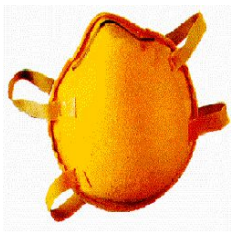
These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:
· the architecture of the air spaces remain intact,
· scar tissue (collagen) is not synthesised to any degree,
· tissue reaction is potentially reversible.
Extensive concentrations of P.N.O.C.s may:
· seriously reduce visibility,
· cause unpleasant deposits in the eyes, ears and nasal passages,
· contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]
This limit does not apply:
· to brief exposures to higher concentrations
· nor does it apply to those substances that may cause physiological impairment at lower

continued...

concentrations but for which a TLV has as yet to be determined.
This exposure standard applies to particles which
· are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
· have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization , or cause toxic effects other than by inflammation or by a mechanism of lung overload).

PERSONAL PROTECTION





EYE
· Safety glasses with side shields.
· 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 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
Impervious gloves.
Rubber gloves.
Safety footwear.

OTHER
Overalls.
· Eyewash unit.

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.

continued...

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions.
If risk of overexposure exists, wear SAA approved respirator.
Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White crystalline powder; does not mix well with water.

PHYSICAL PROPERTIES

Solid.
Does not mix with water.

Molecular Weight: 180.17
Melting Range (°C): >300
Solubility in water (g/L): Partly miscible
pH (1% solution): Not available
Volatile Component (%vol): Negligible
Relative Vapour Density (air=1): Not applicable
Lower Explosive Limit (%): Not available
Autoignition Temp (°C): Not available
State: Divided solid

Boiling Range (°C): Not available
Specific Gravity (water=1): Not available
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible
Evaporation Rate: Not applicable
Flash Point (°C): Not available
Upper Explosive Limit (%): Not available
Decomposition Temp (°C): Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of incompatible materials.
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.

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).

continued...

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.

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.
Considered an unlikely route of entry in commercial/industrial environments.
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.

CHRONIC HEALTH EFFECTS
Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts.
Guanidine has been used in the clinical treatment of certain conditions. The most serious effect of such treatment is suppression of bone-marrow; this appears to be dose-related. Minor side-effects include gastro-intestinal disturbances and parathesis of the lips, face, hands and feet. Neurological symptoms include hyperirritability, tremor, ataxia and , rarely, seizures. Unusual side-effects include atrial fibrillation and hypotension, skin reactions, hypoglycaemia and raised blood creatinine concentrations. Guanidine hydrochloride markedly increased weakness in two Chinese patients with motor neurone weakness; it appears that Oriental men might be more sensitive to the postulated guandine -induced depletion of axonal acetylcholine. Chronic exposures to therapeutic doses of guanidine may have produced severe fibrosing interstitial nephritis in one patient.

TOXICITY AND IRRITATION

TOXICITY	IRRITATION
Oral (rat) LD50: 350 mg/kg	Nil Reported

Section 12 - ECOLOGICAL INFORMATION

No data for guanidine carbonate.

Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.
Consult manufacturer for recycling options.
Consult State Land Waste Management Authority for disposal.
Dissolve residual material in a suitable solvent.
Incinerate residue at an approved site.
Recycle containers if possible, or dispose of in an authorised landfill.

continued...

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

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

Section 15 - REGULATORY INFORMATION

REGULATIONS

guanidine carbonate (CAS: 593-85-1) is found on the following regulatory lists;
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for guanidine carbonate as CAS: 90332-86-8, CAS: 3425-08-9.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
guanidine carbonate	593- 85- 1, 90332- 86- 8, 3425- 08- 9

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 12-May-2018