# ZINC CARBONATE BASIC



## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME**
ZINC CARBONATE BASIC

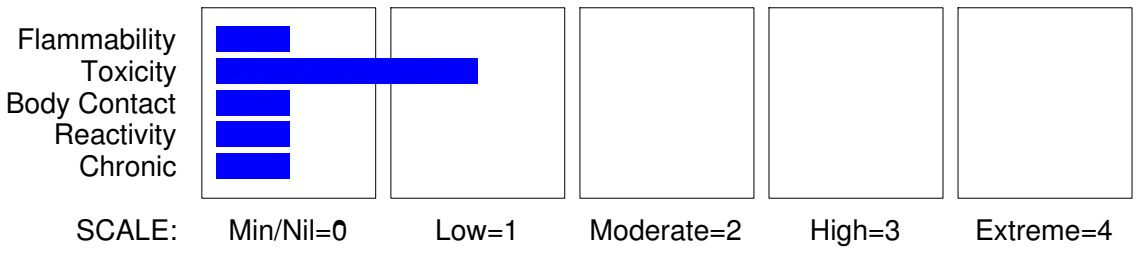
**OTHER NAMES**

"carbonic acid zinc salt", Zincspar, Smithsonite, ZnCO3

**PRODUCT USE**
Source of zinc in ceramics. Fire retardant filler in rubbers, plastics.
Used in ointments, dusting powder for its astringent, fungistat properties.

**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

**EMERGENCY OVERVIEW**

**HAZARD**
Not hazardous
No hazards determined by using GHS criteria

**PRECAUTIONARY STATEMENTS**

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## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---|---|---|
| zinc carbonate | 3486-35-9 | >99 |

## Section 4 - FIRST AID MEASURES

**SWALLOWED**

Rinse mouth out with plenty of water.
For advice, contact a Poisons Information Centre or a doctor.

**EYE**

If this product comes in contact with eyes:
· Wash out immediately with water.
· If irritation continues, 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 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.
· Absorption of zinc compounds occurs in the small intestine.
· The metal is heavily protein bound.
· Elimination results primarily from faecal excretion.
· The usual measures for decontamination (Ipecac Syrup, lavage, charcoal or cathartics) may be administered, although patients usually have sufficient vomiting not to require them.
· CaNa2EDTA has been used successfully to normalise zinc levels and is the agent of choice.
[Ellenhorn and Barceloux: Medical Toxicology].

## Section 5 - FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA**

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

**FIRE FIGHTING**

Use fire fighting procedures suitable for surrounding area.

**FIRE/EXPLOSION HAZARD**

· Non combustible.
· Not considered to be a significant fire risk, however containers may burn.
· In a fire may decompose on heating and produce toxic / corrosive fumes.

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**FIRE INCOMPATIBILITY**
None known.

## Section 6 - ACCIDENTAL RELEASE MEASURES

**EMERGENCY PROCEDURES**

**MINOR SPILLS**
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
· Wear impervious gloves and safety glasses.
· Use dry clean up procedures and avoid generating dust.
· Sweep up or
· Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
· 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.
· Control personal contact by using protective equipment and dust respirator.
· Prevent spillage from entering drains, sewers or water courses.
· Avoid generating dust.
· Sweep, shovel up. Recover product wherever possible.
· Put residues in labelled plastic bags or other containers for disposal.
· If contamination of drains or waterways occurs, advise emergency services.

**EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)**
The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:
zinc carbonate 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:
zinc carbonate 100 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:
zinc carbonate 15 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:
zinc carbonate 5 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

| | | | |
|---|---|---|---|
| Very Toxic (T+) | >= 0.1% | Toxic (T) | >= 3.0% |
| R50 | >= 0.25% | Corrosive (C) | >= 5.0% |
| R51 | >= 2.5% | | |
| else | >= 10% | | |

where percentage is percentage of ingredient found in the mixture

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

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## Section 7 - HANDLING AND STORAGE

**PROCEDURE FOR HANDLING**

Avoid generating and breathing dust.
- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

**SUITABLE CONTAINER**

Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.
NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

**STORAGE INCOMPATIBILITY**

Segregate from oxidising agents and acids.

**STORAGE REQUIREMENTS**

Store in a cool, dry place.
Protect containers against physical damage.
Keep containers securely sealed.
Check regularly for spills and leaks.

**SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS**

\+ + + + + +

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

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE CONTROLS**

The following materials had no OELs on our records
• zinc carbonate: CAS:3486- 35- 9 CAS:12539- 71- 8

**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,

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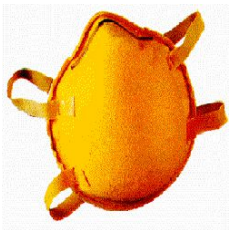
· tissue reaction is potentially reversible.
Extensive concentrations of P.N.O.C.s may:
· seriously reduce visibility,
· cause unpleasant deposits in the eyes, ears and nasal passages,
· contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing 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 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; or as required,
· Chemical goggles.
· 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**
Wear general protective gloves: i.e. Disposable polythene gloves or Cotton gloves or Light weight rubber gloves, with Barrier cream preferably Safety footwear.

**OTHER**
· 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

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personal protective equipment required.
For further information consult your
Occupational Health and Safety Advisor.

**ENGINEERING CONTROLS**

None required when handling small quantities.
OTHERWISE: Use in a well-ventilated area.
· Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
· Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
· If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
(a): particle dust respirators, if necessary, combined with an absorption cartridge;
(b): filter respirators with absorption cartridge or canister of the right type;
(c): fresh-air hoods or masks
· Build-up of electrostatic charge on the dust particle, 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.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

| Type of Contaminant: | Air Speed: |
|---|---|
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1- 2.5 m/s (200- 500 f/min.) |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion). | 2.5- 10 m/s (500- 2000 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range | Upper end of the range |
|---|---|
| 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents |
| 2: Contaminants of low toxicity or of nuisance value only | 2: Contaminants of high toxicity |
| 3: Intermittent, low production. | 3: High production, heavy use |
| 4: Large hood or large air mass in motion | 4: Small hood- local control only |

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

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## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**

White powder. Soluble in acids with evolution of carbon dioxide gas.
Solubility in water < 0.1%. Decomposes on heating to 300C
Also available as Basic Zinc Carbonate.

**PHYSICAL PROPERTIES**

Solid.
Does not mix with water.
Sinks in water.

Molecular Weight: 125.38
Melting Range (°C): Not available
Solubility in water (g/L): Insoluble
pH (1% solution): Not applicable.
Volatile Component (%vol): Nil
Relative Vapour Density (air=1): Not applicable.
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Divided solid

Boiling Range (°C): Not applicable.
Specific Gravity (water=1): 4.4
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not applicable.
Evaporation Rate: Not applicable
Flash Point (°C): None
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

**CONDITIONS CONTRIBUTING TO INSTABILITY**

Product is considered stable and hazardous polymerisation will not occur.

## Section 11 - TOXICOLOGICAL INFORMATION

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS**

**SWALLOWED**

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.
Considered an unlikely route of entry in commercial/industrial environments.
Soluble zinc salts produces irritation and corrosion of the alimentary tract (in a manner similar to copper salts) with pain, vomiting, etc. Delayed deaths have been ascribed to inanition (weakness and extreme weight loss resulting from prolonged and severe food insufficiency) following severe strictures of the oesophagus, and pylorus.

**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).

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**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.
Not considered to cause discomfort through normal use.

**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.
Not normally a hazard due to non-volatile nature of product.
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**
Primary route of exposure is usually by inhalation of generated dust.
No human exposure data available. For this reason health effects described are based on experience with chemically related materials.
As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

**TOXICITY AND IRRITATION**
No significant acute toxicological data identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

No data for zinc carbonate.

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- 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, IMDG

## Section 15 - REGULATORY INFORMATION

**REGULATIONS**
No regulations applicable
No data available for zinc carbonate as CAS: 3486-35-9, CAS: 12539-71-8.

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## Section 16 - OTHER INFORMATION

**INGREDIENTS WITH MULTIPLE CAS NUMBERS**

| Ingredient Name | CAS |
|---|---|
| zinc carbonate | 3486- 35- 9, 12539- 71- 8 |

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.

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