

SODIUM FORMALDEHYDE SULPHOXYLATE

GHS Safety Data Sheet

Version No:2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

SODIUM FORMALDEHYDE SULPHOXYLATE

OTHER NAMES

C-H4-O3-S-Na, HOCH2SO2Na, "sodium oxymethanesulfinic acid", "formaldehyde hydrosulphite", "sodium sulfoxylate formaldehyde", "formaldehyde hydrosulfite", "sodium sulfoxylate formaldehyde", "formaldehyde sodium bisulphite adduct", Aldanil, "formaldehyde sodium bisulfite adduct", Discolite, "formaldehyde sodium sulfoxylate", Formopan, "formaldehyde sodium sulfoxylate", Hydrolit, "formaldehydesulphoxylic acid sodium salt", "Hydrosulfite AWC", "formaldehydesulfoxylic acid sodium salt", Rongalit, "hydroxymethanesulphinic acid sodium salt", "Rongalit C", "hydroxymethane sulfinic acid sodium salt", Rongalite, "sodium hydroxymethanesulphinate", "Rongalite C", "sodium hydroxymethanesulfinate", "sodium methanalsulphoxylate", "sodium methanalsulfoxylate", "sodium oxymethanesulphinic acid"

PRODUCT USE

Emulsion polymerisation initiator. Stripping and discharge agent for textiles, bleaching agent for molasses, soap.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

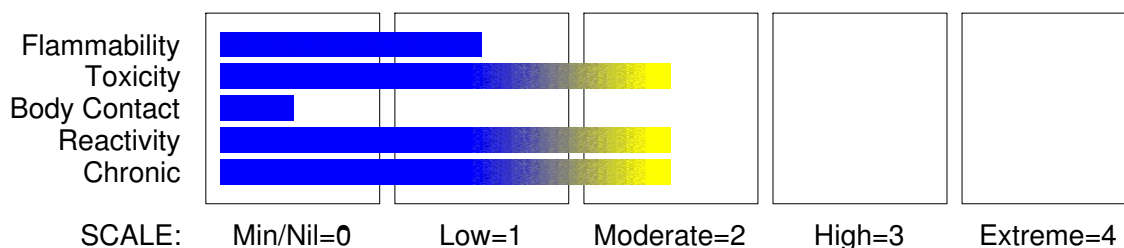
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HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Oral) Category 5

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Section 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by Chemwatch using GHS criteria:

H303

May be harmful if swallowed

PRECAUTIONARY STATEMENTS

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium formaldehyde sulfoxylate	149-44-0	95-100
some grades may contain sodium carbonate	497-19-8	1-5^

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water. · 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.

EYE

DO NOT delay. 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.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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 dust is inhaled, remove from contaminated area.

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Section 4 - FIRST AID MEASURES

- Encourage patient to blow nose to ensure clear breathing passages.
- Ask patient to rinse mouth with water but to not drink water.
- Seek immediate medical attention.
- or · 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.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- DANGER: Deliver media remotely.
- Water spray or fog.
- Flooding quantities only.

Use water only to combat fire; smothering is ineffective because material supplies own oxygen.

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.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

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.

Contact with water can cause heating and decomposition.

Decomposes on heating and produces toxic fumes of sulfur oxides (SO_x).

FIRE INCOMPATIBILITY

Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.

Avoid contamination with strong oxidising agents as ignition may result.

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Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Keep dry . . . Remove all ignition sources.

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

Restrict access to area. DO NOT touch the spill material.

Remove all ignition sources.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- DO NOT use water on spill.
- No smoking, flames or ignition sources.
- Increase ventilation.
- Contain with DRY sand, earth or other clean, dry inert material.
- NEVER use organic absorbents such as sawdust, paper, cloth or wet materials.
- Use spark-free and explosion-proof equipment.
- Collect recoverable product in labelled containers for possible recycling.
- To avoid risk of contamination, DO NOT mix recovered with fresh material.
- Absorb remaining product with dry sand, earth or vermiculite.
- Collect residues and seal in labelled drums for disposal.
- Use flooding quantities of water to wash area.
- Prevent runoff into drains.
- If contamination of drains or waterways occurs advise emergency services.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.

Keep dry . . . Protect from heat. Keep cool.

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.

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Section 7 - HANDLING AND STORAGE

- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

SUITABLE CONTAINER

Glass container or Plastic container.

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.

- Check that containers are clearly labelled.

Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

Keep dry . Contact with water can cause heating and decomposition.

Avoid storage with oxidisers, strong acids.

Contact with acids produces toxic fumes i.e. sulfur dioxide (SO₂).

STORAGE REQUIREMENTS

- Protect from heat. Keep cool.
- Store in original containers.
- Keep containers securely sealed as supplied.
- Store in a cool, well ventilated area.
- Keep dry.
- Store under cover and away from sunlight.
- Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.
- Store away from incompatible materials and foodstuff containers.
- DO NOT stack on wooden floors or pallets.
- Protect containers from physical damage.
- Check regularly for leaks.
- Observe manufacturer's storage and handling recommendations.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+



+



+



+



+



+

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- sodium formaldehyde sulfoxylate: CAS:149- 44- 0

PERSONAL PROTECTION

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



EYE

- Safety glasses with side shields
- 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

- Barrier cream and Neoprene rubber gloves or Rubber Gloves.
- Safety footwear.

OTHER

- Overalls and PVC apron.
- Ensure that there is ready access to eye wash unit.
- Ensure there is ready access to an emergency shower.
- Operators should be trained in correct use & maintenance of respirators.

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 site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

DO NOT handle directly. Wear gloves and use scoop / tongs / tools.

Use in a well-ventilated area Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (in still air). aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	Air Speed: 0.25- 0.5 m/s (50- 100 f/min) 0.5- 1 m/s (100- 200 f/min.) 1- 2.5 m/s (200- 500 f/min.) 2.5- 10 m/s (500- 2000 f/min.)
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Within each range the appropriate value depends on:

Lower end of the range 1: Room air currents minimal or favourable to capture 2: Contaminants of low toxicity or of nuisance value only. 3: Intermittent, low production. 4: Large hood or large air mass in motion	Upper end of the range 1: Disturbing room air currents 2: Contaminants of high toxicity 3: High production, heavy use 4: Small hood- local control only
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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 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White powder; mixes with water and alcohol. Dissolves in water = 680g/L.
Solution is endothermic - absorbs heat, but dry powder may get hot and release sulfur dioxide gas if damp. Odourless when freshly prepared but quickly generates garlic-like / sulfur odour.
Commercial textile materials may be admixed with a sulfite.

PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: 119.10
Melting Range (°C): 64
Solubility in water (g/L): Miscible
pH (1% solution): 9- 11 @ 10%
Volatile Component (%vol): Nil @ 38 C.
Relative Vapour Density (air=1): Not applicable

Boiling Range (°C): Not available.
Specific Gravity (water=1): 0.85- 0.90 bulk
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not applicable
Evaporation Rate: Not applicable
Flash Point (°C): > 100

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Lower Explosive Limit (%): Not available.
Autoignition Temp (°C): Not available.
State: Divided solid

Upper Explosive Limit (%): Not available.
Decomposition Temp (°C): 125

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- 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.

Ingestion may result in nausea, abdominal irritation, pain and vomiting.

Ingestion of sulfite salts may cause gastric irritation as a result of the liberation of sulfurous acid. Rapid oxidation to sulfate (at least in rats) means that sulfites are well tolerated. Large doses however may produce violent colic, diarrhoea, circulatory disturbances, central nervous system depression and, sometimes, death. Sulfite is an endogenous decomposition product found in all tissues as a result of amino-acid catabolism. However individuals with a genetic defect in sulfite oxidase are particularly sensitive to bisulfite and at least one death due bisulfite-induced neurologic degeneration has been recorded.

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).

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.

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

The material may accentuate any pre-existing dermatitis condition.

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.

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Section 11 - TOXICOLOGICAL INFORMATION

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.

Sulfite and bisulfite salts react irreversibly, through free radical formation, with endogenous substances (including DNA). Some asthmatics are said to be dangerously sensitive to minute amounts of sulfite in food. Symptoms include bronchoconstriction, bronchospasm, gastrointestinal disturbance, flushing, hypotension, tingling sensations, urticaria and angio-oedema and shock.

The sulfites belong to a group of substances which induces local or systemic reactions which are identical or similar to allergic reactions and invoke pseudo-allergic ("anaphylactoid) reactions. The mechanism of this response is still largely unknown but does not involve an antigen-antibody interaction and therefore may appear on first contact with the substance.

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

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: >2000 mg/kg

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

No data for sodium formaldehyde sulfoxylate.

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- 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

sodium formaldehyde sulfoxylate (CAS: 149-44-0) 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

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Section 16 - OTHER INFORMATION

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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