

FERROUS SULPHIDE

GHS Safety Data Sheet

Version No:2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

FERROUS SULFIDE

OTHER NAMES

Fe-S, pyrite, "iron sulphide", "iron sulfuret", magnetkies, pyrrohotine, troilite, "iron sulfide", "iron protosulfide", "iron protosulphide"

PRODUCT USE

In foundries as a source of sulphur in iron production; when added to iron acts as a softening agent to increase the machineability of the steel produced.

As a laboratory source of hydrogen sulphide (H₂S), to produce other sulphides, in the ceramic industry, lubricant coatings, as a paint pigment and in anodes.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

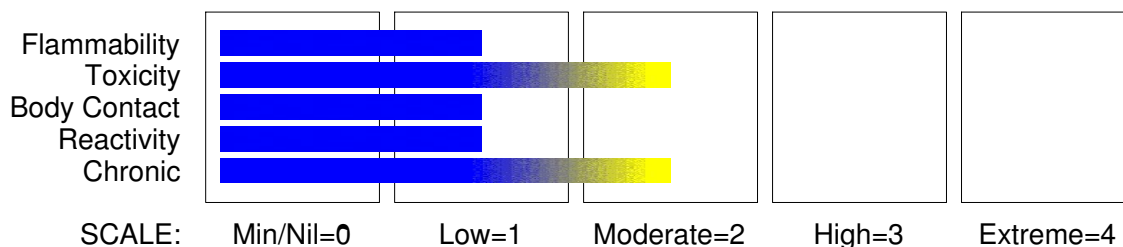
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



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Section 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARD

Not hazardous

No hazards determined by using GHS criteria

PRECAUTIONARY STATEMENTS

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ferrous sulfide	1317-37-9	90~
silica amorphous	7631-86-9	4~
lead	7439-92-1	0.1 max.

(NOTE: Particle size of ferrous sulfide determines pyrophoric behaviour).

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.

· For advice, contact a Poisons Information Centre or a doctor.

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 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.

· 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.

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.

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Section 4 - FIRST AID MEASURES

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

For acute or short term repeated exposures to iron and its derivatives:

- Always treat symptoms rather than history.
- In general, however, toxic doses exceed 20 mg/kg of ingested material (as elemental iron) with lethal doses exceeding 180 mg/kg.
- Control of iron stores depend on variation in absorption rather than excretion.

Absorption occurs through aspiration, ingestion and burned skin.

- Hepatic damage may progress to failure with hypoprothrombinaemia and hypoglycaemia. Hepatorenal syndrome may occur.

- Iron intoxication may also result in decreased cardiac output and increased cardiac pooling which subsequently produces hypotension.

- Serum iron should be analysed in symptomatic patients. Serum iron levels (2-4 hrs post-ingestion) greater than 100 ug/dL indicate poisoning with levels, in excess of 350 ug/dL, being potentially serious. Emesis or lavage (for obtunded patients with no gag reflex) are the usual means of decontamination.

- Activated charcoal does not effectively bind iron.

- Catharsis (using sodium sulfate or magnesium sulfate) may only be used if the patient already has diarrhoea.

- Deferoxamine is a specific chelator of ferric (3+) iron and is currently the antidote of choice. It should be administered parenterally. [Ellenhorn and Barceloux: Medical Toxicology].

For exposures involving sulfides and hydrogen sulfide (including gastric acid decomposition products of alkaline sulfides):

- Hydrogen sulfide anion produces its major toxic effect through inhibition of cytochrome oxidases.

- Symptoms include profuse salivation, nausea, vomiting and diarrhea. Central nervous effects may include giddiness, headache, vertigo, amnesia, confusion and unconsciousness. Tachypnoea, palpitations, tachycardia, arrhythmia, sweating, weakness and muscle cramps may also indicate overexposure.

Treatment involves:

- If respirations are depressed, application of artificial respiration, administration of oxygen (continue after spontaneous breathing is established).
- For severe poisonings administer amyl nitrite and sodium nitrite (as for cyanide poisoning) but omit sodium thiosulfate injection.
- Atropine sulfate (0.6 mg intramuscularly) may contribute symptomatic relief.
- Conjunctivitis may be relieved by installation of 1 drop of olive-oil in each eye and sometimes by 3 drops of epinephrine solution (1:1000) at frequent intervals. Occasionally local anesthetics and hot and cold compresses are necessary to control pain.
- Antibiotics at first hint of pulmonary infection.

[Gosselin et al, Clinical Toxicology of Commercial Products].

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Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

DO NOT use water.

FIRE FIGHTING

- 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, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- DO NOT use water on fires.

CAUTION: If only water available, use flooding quantities of water or withdraw personnel.

- DO NOT allow water to enter containers.
- 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.
- If fire gets out of control withdraw personnel and warn against entry.
- 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.

Combustion products include: sulfur oxides (SO_x).

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

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- 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.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Use dry clean up procedures and avoid generating dust.
- **DO NOT USE WATER OR NEUTRALISING AGENTS INDISCRIMINATELY ON LARGE SPILLS.**
- Absorb or cover spill with sand, earth, inert material or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Collect residues and seal in labelled drums for disposal.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs as a result of the above actions, advise emergency services.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+ + + + + +

+: May be stored together

O: May be stored together with specific precautions

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. Observe manufacturer's storing and handling recommendations.

Avoid all personal contact, including inhalation.

Avoid generating and breathing dust.

Wear protective clothing when risk of exposure occurs.

Avoid smoking, naked lights, heat or ignition sources.

Use in a well-ventilated area.

Avoid contact with incompatible materials.

Handle and open container with care.

DO NOT spray directly on humans, exposed food or food utensils.

When handling, DO NOT eat, drink or smoke.

Avoid physical damage to containers.

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Section 7 - HANDLING AND STORAGE

Wash hands with soap and water after handling.
Work clothes should be laundered separately: NOT at home.

SUITABLE CONTAINER

Glass 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

Contact with acids produces toxic fumes.
Avoid storage with strong acids and lithium.

STORAGE REQUIREMENTS

- Keep dry.
- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials.
- Protect containers against physical damage.
- Check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- ferrous sulfide: CAS:1317- 37- 9
CAS:7631- 86- 9 CAS:112945- 52- 5 CAS:61673- 46- 9 CAS:60572- 11- 4 CAS:56731- 06- 7 CAS:67167- 16- 2 CAS:12737- 36- 9 CAS:62655- 73- 6 CAS:70536- 23- 1 CAS:70536- 61- 7 CAS:70563- 35- 8 CAS:37241- 25- 1 CAS:37334- 65- 9 CAS:37340- 45- 7 CAS:37380- 93- 1 CAS:39336- 66- 8 CAS:39372- 58- 2 CAS:39409- 25- 1 CAS:39443- 40- 8 CAS:39456- 81- 0 CAS:50813- 13- 3 CAS:50926- 93- 7 CAS:50935- 83- 6 CAS:11139- 73- 4 CAS:87501- 59- 5 CAS:1340- 09- 6 CAS:37220- 24- 9 CAS:12774- 28- 6 CAS:52350- 43- 3 CAS:53468- 64- 7 CAS:55599- 33- 2 CAS:56645- 27- 3 CAS:12765- 74- 1 CAS:12753- 63- 8 CAS:12125- 13- 2 CAS:51542- 58- 6 CAS:11139- 72- 3 CAS:9049- 77- 8 CAS:51542- 57- 5 CAS:78207- 17- 7 CAS:126879- 14- 9 CAS:155575- 05- 6 CAS:155552- 25- 3 CAS:152787- 33- 2 CAS:152206- 35- 4 CAS:149779- 02- 2 CAS:146585- 72- 0 CAS:145808- 77- 1 CAS:173299- 41- 7 CAS:145537- 54- 8 CAS:179046- 03- 8 CAS:138860- 82- 9 CAS:137263- 03- 7 CAS:136881- 80- 6 CAS:136303- 13- 4 CAS:127831- 27- 0 CAS:127689- 16- 1 CAS:126879- 49- 0 CAS:126879- 30- 9 CAS:145686- 91- 5
- silica amorphous:

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

CAS:231629- 15- 5 CAS:402828- 40- 4 CAS:402828- 39- 1 CAS:402828- 37- 9 CAS:368432- 40- 0 CAS:341028- 71- 5 CAS:330152- 64- 2 CAS:264907- 28- 0 CAS:250579- 78- 3 CAS:172306- 09- 1 CAS:247900- 77- 2 CAS:139074- 73- 0 CAS:217643- 58- 8 CAS:207868- 97- 1 CAS:206770- 31- 2 CAS:203526- 86- 7 CAS:191289- 29- 9 CAS:188357- 77- 9 CAS:185461- 90- 9 CAS:184654- 53- 3 CAS:250579- 70- 5 CAS:98253- 25- 9 CAS:97343- 62- 9 CAS:97709- 14- 3 CAS:98226- 40- 5 CAS:125623- 17- 8 CAS:89493- 21- 0 CAS:83652- 92- 0 CAS:122985- 48- 2 CAS:83589- 56- 4 CAS:113384- 41- 1 CAS:108727- 71- 5 CAS:107497- 59- 6 CAS:7439- 92- 1

• lead:

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
silica amorphous	3, 000	
lead	100	

MATERIAL DATA

INGREDIENT DATA

SILICA AMORPHOUS:

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

LEAD:

Not available

PERSONAL PROTECTION



EYE

- Safety glasses.
- Safety glasses with side shields.
- Chemical goggles.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

· 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 protective gloves, eg. PVC.

OTHER

Rubber apron.

PVC apron.

Plastic apron.

Overalls.

· Eyewash unit.

Ensure there is ready access to a safety shower.

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

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.

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,

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.)

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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).

2.5- 10 m/s (500- 2000 f/min.)

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

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

Colourless hexagonal crystals when pure. Impure forms may be black, brown or grey in colour and be shaped as rods/sticks, metallic pieces, granules, or a powder (20 mesh size).
Naturally occurs as minerals magnetkies, pyrrhotine and troilite.
It is odourless.
Insoluble in water, solvents, ammonia (NH₃).
Soluble in acids (decomposes) with hydrogen sulphide evolving.
Particle size determines pyrophoric behaviour.

PHYSICAL PROPERTIES

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

Molecular Weight: 87.91
Melting Range (°C): 1193- 1199
Solubility in water (g/L): Immiscible
pH (1% solution): Not applicable.
Volatile Component (%vol): Not applicable
Relative Vapour Density (air=1): Not applicable.
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not available.

Boiling Range (°C): decomposes
Specific Gravity (water=1): 4.74
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not applicable
Evaporation Rate: Not applicable
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

State: Divided solid

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

Accidental ingestion of the material may be damaging to the health of the individual. Considered an unlikely route of entry in commercial/industrial environments. Iron poisoning, although rare, may result in epigastric pain and vomiting followed over 6-8 hours by shock, and in severe case coma and death. The toxicity of iron compounds increases in proportion to their solubility in the gastrointestinal tract. Vomitus frequently contains blood, due in part to capillary dilation and blood loss through gastrointestinal walls (diapedesis). Watery diarrhoea with ribbons of bowel mucosa contribute to cardiovascular collapse from fluid and electrolyte loss. Although a quiescent period may follow some victims relapse within 12 hours into lethal secondary shock. During relapse a profound metabolic acidosis is encountered. This has been attributed to hydrolysis of ferric ions in blood as well as increases in the level of lactic and citric acids. Respiratory changes resulting from acidosis are often evident. Postmortem examination often reveals liver damage consisting of periportal haemorrhagic necrosis. Poisoning may also produce a metallic taste, restlessness, lethargy, hypotonia, coma, pallor or cyanosis, fast, weak pulse, hypotension, hyperventilation (due to acidosis), shock, vasomotor instability and cardiovascular collapse. Pneumonitis, pulmonary oedema and haemorrhage, convulsions, liver impairment with jaundice, hypoglycaemia, multiple coagulation defects, kidney damage with anuria, pancreatic damage, vascular damage, hypovolaemia, haemoconcentration, profound shock and vascular collapse have been reported. Survivors may display gastric scarring or obstruction, pyloric obstruction or stenosis, mild hepatic scirrhosis or neuralgic sequelae. Ingestion of sulfide salts may result in their decomposition by stomach gastric acid to hydrogen sulfide with systemic poisoning. Symptoms may include headache, respiratory depression, cyanosis, fall of blood pressure, loss of consciousness, tremors and convulsions.

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.

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Section 11 - TOXICOLOGICAL INFORMATION

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.

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

On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.

Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts.

Excessive inhalation of dust over a considerable period of time may lead to increased risk of contracting a serious respiratory disease (silicosis).

Chronic excessive iron intakes have been associated with haemosiderosis and consequent possible damage to the liver and pancreas.

High levels of iron may raise the risk of cancer. This concern stems from the theory that iron causes oxidative damage to tissues and organs by generating highly reactive chemicals, called free radicals, which subsequently react with DNA. Cells may be disrupted and may become cancerous. People whose genetic disposition prevents them from keeping tight control over iron (e.g. those with the inherited disorder, haemochromatosis) may be at increased risk.

Iron overload in men may lead to diabetes, arthritis, liver cancer, heart irregularities and problems with other organs as iron builds up.

[K. Schmidt, New Scientist, No. 1919 pp.11-12, 2nd April, 1994].

TOXICITY AND IRRITATION

No significant acute toxicological data identified in literature search.

SILICA AMORPHOUS:

TOXICITY

Oral (rat) LD50: 3160 mg/kg

Dermal (rabbit) LD50: >5000 mg/kg *

Inhalation (rat) LC50: >0.139 mg/l/14h **

[Grace]

IRRITATION

Skin (rabbit): non- irritating *

Eye (rabbit): non- irritating *

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

Reports indicate high/prolonged exposures to amorphous silicas induced lung fibrosis in experimental animals; in some experiments these effects were reversible. [PATTYS]

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Section 11 - TOXICOLOGICAL INFORMATION

LEAD:

TOXICITY

Oral (woman) TDLo: 450 mg/kg/6 years

Inhalation (human) TCLo: 0.01 mg/m³

WARNING: Lead is a cumulative poison and has the potential to cause

abortion and intellectual impairment to unborn children of pregnant workers.

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

No data for ferrous sulfide.

Refer to data for ingredients, which follows:

SILICA AMORPHOUS:

DO NOT discharge into sewer or waterways.

Aquatic toxicity (Daphnia magna) 24h EC50: >1000 mg/l

Fish toxicity (Brachydanio rerio) 96h LC50: >10,000 mg/l

[Grace]

LEAD:

Hazardous Air Pollutant: Yes

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

No regulations applicable

No data available for ferrous sulfide as CAS: 1317-37-9.

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Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name
silica amorphous

CAS
7631- 86- 9, 112945- 52- 5, 61673- 46- 9, 60572- 11- 4, 56731- 06- 7, 67167- 16- 2, 12737- 36- 9, 62655- 73- 6, 70536- 23- 1, 70536- 61- 7, 70563- 35- 8, 37241- 25- 1, 37334- 65- 9, 37340- 45- 7, 37380- 93- 1, 39336- 66- 8, 39372- 58- 2, 39409- 25- 1, 39443- 40- 8, 39456- 81- 0, 50813- 13- 3, 50926- 93- 7, 50935- 83- 6, 11139- 73- 4, 87501- 59- 5, 1340- 09- 6, 37220- 24- 9, 12774- 28- 6, 52350- 43- 3, 53468- 64- 7, 55599- 33- 2, 56645- 27- 3, 12765- 74- 1, 12753- 63- 8, 12125- 13- 2, 51542- 58- 6, 11139- 72- 3, 9049- 77- 8, 51542- 57- 5, 78207- 17- 7, 126879- 14- 9, 155575- 05- 6, 155552- 25- 3, 152787- 33- 2, 152206- 35- 4, 149779- 02- 2, 146585- 72- 0, 145808- 77- 1, 173299- 41- 7, 145537- 54- 8, 179046- 03- 8, 138860- 82- 9, 137263- 03- 7, 136881- 80- 6, 136303- 13- 4, 127831- 27- 0, 127689- 16- 1, 126879- 49- 0, 126879- 30- 9, 145686- 91- 5, 231629- 15- 5, 402828- 40- 4, 402828- 39- 1, 402828- 37- 9, 368432- 40- 0, 341028- 71- 5, 330152- 64- 2, 264907- 28- 0, 250579- 78- 3, 172306- 09- 1, 247900- 77- 2, 139074- 73- 0, 217643- 58- 8, 207868- 97- 1, 206770- 31- 2, 203526- 86- 7, 191289- 29- 9, 188357- 77- 9, 185461- 90- 9, 184654- 53- 3, 250579- 70- 5, 98253- 25- 9, 97343- 62- 9, 97709- 14- 3, 98226- 40- 5, 125623- 17- 8, 89493- 21- 0, 83652- 92- 0, 122985- 48- 2, 83589- 56- 4, 113384- 41- 1, 108727- 71- 5, 107497- 59- 6

REPRODUCTIVE HEALTH GUIDELINES

Ingredient	ORG	UF	Endpoi nt	CR	Adeq TLV
lead	0.01 mg/m3	1000	D	NA	-

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

continued...

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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.

Issue Date: 12-May-2018