CSO Technik Ltd
Chequers Barn
Chequers Hill
Bough Beech
Edenbridge
Kent TN8 7PD

www.csotechnik.com

T: +44 (0) 1732 700011 **F:** +44 (0) 1732 701050 **E:** sales@csotechnik.com

Iron Oxide EST 2242

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERSTAKING

Contact:	Malcolm Beeston
Supplier:	CSO Technik Ltd
E-Mail:	Malcolm.beeston@csotechnik.com
Tel:	01732 700011
Fax:	01732 701050
Address:	CSO Technik Chequers Barn Chequers Hill Bough Beech Edenbridge Kent TN8 7PD ENGLAND
Emergency Tel:	+44 (0) 1732 701047 (English Office Hours) Dave Martin
Emergency Tel:	+44 (0) 7767 898179 (Other Hours) Dave Martin
Product name:	Iron Oxide EST 2242
Application:	Air and Gas Purification

SECTION 2 – HAZARDS IDENTIFICATION

Main hazard:	May cause eye, skin and respiratory tract irritation. Long term inhalation of particulates may cause lung damage.
Cancer hazard:	Contains crystalline silica which may cause Cancer.
Flammability:	Not combustible.
Eye Effects:	Dust may cause irritation and inflammation.
Health Effects – skin:	Dust may cause skin irritation.
Health Effects – ingestion:	Not considered a likely route of exposure. May be harmful if large amounts are swallowed.
Health Effects – inhalation:	Dust inhalation may cause irritation to the respiratory tract.
Carcinogenicity:	See section 11 – Toxicological Information
Mutagenicity:	None found
Neurotoxicity:	None found

SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %	Comments
Montmorillonite, calcined	70892-59-0	30 – 60	No comments.
Water	7732-18-5	5 – 10	No comments.
Iron oxides	Various	10 - 30	No comments.
Silica, crystalline, quartz	14808-60-7	0.1 -1	No comments.

SECTION 4 – FIRST AID MEASURES

Product in Eye:
Check for and remove any contact lenses. Immediately flush with copious amounts of water for at least 15 minutes. Seek medical attention.

Product on Skin:
If irritation caused, wash affected area with plenty of soap and water. Remove contaminated clothing and launder before reuse. Seek medical attention if irritation persists.

Product Ingested:
Do not induce vomiting. If conscious dilute 2 – 3 glasses of milk or water to drink. If large quantities ingested seek medical advice.

Product Inhaled:
Remove to fresh air. Give oxygen if necessary.
If not breathing give artificial respiration. Seek immediate medical attention.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media:
Use extinguishing media appropriate for surrounding fire. This material is not combustible.

Protective Clothing:
In the event of a fire, wear full protective clothing and an approved self-contained breathing apparatus.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Ventilate area of spill. Keep unnecessary and unprotected persons away from the area of the spill. Wear protective clothing as detailed in section 8.

Environmental Precautions:
Collect and contain spillages and prevent the material or water that has been in contact with the material, e.g. after a fire, entering a watercourse or storm water channel.

Small and Large Spills:
Collect any spilt material and place in suitable container, e.g. skip or drum, for reclamation or treatment and disposal to a suitable waste facility. If necessary, absorb residues in an inert material, e.g. vermiculite, sand or soil and place in a protected waste container. Lightly contaminated water should preferably be collected and discharged to sewer, if allowed by the authorities, or, alternatively, take to a suitable waste facility for treatment and disposal.

SECTION 7 – HANDLING AND STORAGE

Handling/Storage:
Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid generating or breathing dust. Product slippery if wet. Keep in sack or bag and store in a cool, dry, ventilated area. Protect containers from damage. Separate from incompatible materials.
Wash thoroughly after handling.

Suitable Material:
The material is stored in bulk bags.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ingredient	CAS No.	Wt. %	ACGIH TLV	OSHA PEL	Other	Notes
Montmorillonite, calcined	70892-59-0	30 - 60	NA	NA	NA	(1)
Water	7732-18-5	5 - 10	NA	NA	NA	None
Iron oxides	Various	10 - 30	5 mg/m3, (Iron oxide dust fumes as Fe)	10 mg/m3 (fume)	NA	None
Silica, crystalline, quarts	14808-60-7	0.1 - 1	0.025 mg/m3	See Table Z- 3	NIOSH: 0.05 mg/m3 (10 H day/40 H wk)	(R)

Notes

(1) ACGIH particulate not otherwise specified (PNOS):
10 mg/m$_3$ (Inhalable); 3 mg/m$_3$ (Respirable)
OSHA particulate not otherwise regulated (PNOR):
15 mg/m$_3$ (Total); 5 mg/m$_3$ (Respirable).
(R) Respirable fraction.

Table Z-3: PEL for Mineral Dusts containing crystalline silica are 10 mg/m$_3$ / (%SiO2+2) for quartz and ½ the calculated quartz value for cristobalite and tridymite.

An independent study conducted for Iron Oxide concluded that workers, who manufacture Iron Oxide products, were not exposed to levels of crystalline silica that exceeded the permissible exposure limit (PEL) and the Threshold Limit Valve (TLV) established by OSHA and ACGIH, respectively, for this substance. These manufacturing operations include drying; loading, unloading and mixing of raw materials; final product bagging and general housekeeping activities. Both the PEL and TLV represent the time weighted average concentration for an 8 hour workday and a 40 hour work week, to which it is believed that workers may be repeatedly exposed, day after day, without adverse effect.

Engineering Control: Measures	Use process enclosures, local exhaust ventilation or other Engineering controls to keep air borne levels below recommended exposure limits.
Personal Protection: Respiratory	Wear breathing protection (filter type P2)
Personal protection: Hand	Vinyl Gloves
Personal protection: Eye	Safety glasses/goggles/face shield. Eye baths should be available in area.
Personal Protection: Skin	Overalls buttoned to neck and wrist and rubber sole boots

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black Granular Solid
Odour:	None
pH - 3% in water:	ND
Boiling Point:	ND
Melting/freezing Point:	2100F
Flash Point:	NA
Vapour Pressure:	ND
Specific Gravity:	1.0 – 1.1
Bulk Density:	1000 – 1100 kg/m3
Solubility in Water:	Negligible

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of use and storage.
Conditions to Avoid:	ND
Incompatible Materials:	Avoid contact with strong acids, Strong oxidisers.
Hazardous Decomposition: Products	None known

SECTION 11 – TOXICOLOGICAL INFORMATION

Component Toxicological Data: Any adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

Ingredient	CAS No.	Acute Data
Manganese dioxide	1313-13-9	Oral LD50:>3478 mg/kg (rat); Inhalation TCLo: 1800 mg/m3/24H/35D (rat)

Ingredient Component	Toxicological Summary
Silica, crystalline, quartz	Crystalline silica is the most widely occurring of all minerals. The most common form of silica is sand. The international Agency for Research on Cancer (IARC) has designated crystalline silica in the form of quartz or cristobalite a Group 1 (carcinogenic to humans). This designation was based on an increased risk of lung cancer among crystalline silica exposed workers. IARC did note that carcinogenicity of crystalline silica in humans was not detected in all industrial circumstances studied. Further, carcinogenicity of crystalline silica may be dependent on inherent characteristics of the crystalline silica or external factors affecting its biological activity or distribution of polymorphs. (IARC Vol.68, 1997, p.41) The National Toxicology Program (NTP) classifies crystalline silica as "reasonably anticipated to cause cancer in humans" (6th Annual Report on Carcinogens, 1991). Long term inhalation of crystalline silica can also result in the lung disease, silicosis. Symptoms of this disease include coughing and shortness of breath. (NJ HSFS, January 1996)
Manganese dioxide	Chronic manganese poisoning can result from excessive inhalation and ingestion exposure and can result in impairment of the central nervous system (CNS). Early symptoms include sluggishness, sleepiness and weakness in the legs. Advanced cases have shown fixed facial expression, emotional disturbances, spastic gait and falling. Illness closely resembles Parkinson's Disease. Kidney effects, blood changes and manganese psychosis (mental disorder) may also occur as a result of chronic exposure. Workers routinely exposed to high concentrations of manganese dust show unusually high incidence of respiratory disease.

Product Toxicological Information:
Product oral LD50 is >3990mg/kg (rat) (highest practical test level).

Long term inhalation of particulate can cause irritation, inflammation and/or permanent injury to the lungs. Illnesses such as pneumoconiosis ("dusty lung"), pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma may develop.

SECTION 12 – ECOLOGICAL INFORMATION

Component Ecotoxicity Data:	Component ecotoxicity data are listed below. If no data are listed, none were found in the component review.
Product Ecotoxicity Data:	Contact M-I Environmental Affairs Department for available product ecotoxicity data.
Biodegradation:	ND
Bioaccumulation:	ND
Octano/Water Partition Coefficient:	ND

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal Methods:	Dispose to a suitable waste landfill.

SECTION 14 – INTERNATIONAL TRANSPORT REGULATIONS

UN Number:	N/A
IMDG – Class:	N/A
SANS 10228:	N/A
Packing Group:	N/A

SECTION 15 – REGULATORY INFORMATION

Chemical Inventory:	EINECS/ELINCS – Components are listed or exempt from listing
Risk Phrases:	Not Classified
Safety Phrases:	Not Classified

SECTION 16 – OTHER INFORMATION

Other Special: **Considerations**	Do not use in confined spaces without adequate ventilation. Adequate oxygen monitoring should take place when working in confined spaces.
Risk Phrases in Full:	NA – Not Applicable ND - Not Determined

Notice to Reader:
The information and recommendations presented in this material safety data sheet are to the best of our knowledge and belief accurate and reliable, but do not constitute a warranty. We as representatives/ agents are not authorised to give any guarantee or warranty or make any representation in addition or contrary to the above, and we do not accept liability for claims of any kind for any loss, including, without limitation, consequential loss, injury or damage arising from the use of the information or recommendations, or of the products, which are the subject matter hereof.

Terms of contract:
Our standard terms of contract will apply.

Stage Payments:
20% on submittal of drawings for approval
80% on readiness of equipment for shipment

Payment Terms:
30 days net to approved accounts. Please note that we understand and will exercise our statutory right to interest under the Late Payment of Commercial Debts (interest) Act 1998 if we are not paid according to agreed credit terms.

Liquidated Damages:
We regret we are unable to accept liquidated damages.

Retentions:
We regret we are unable to accept retentions.

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