



HONGHA PIGMENT PTE.

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MATERIAL SAFETY DATA SHEET

YELLOW IRON OXIDE PIGMENT

1. CHEMICAL PRODUCT

Trade name : Yellow Iron Oxide

Chemical Name: C.I. Pigment Yellow 42

Synonyms: Iron(III) hydroxide oxide, ferric hydrate oxide, goethite, yellow iron oxide, C313

Molecular Formula: α -FeOOH.

Product Use: Colouring construction products

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient	EC No.	CAS-No.	% Concentration	ACGIH TLV (TWA)
Yellow Iron Oxide (FeOOH)	257-098-5	51274-00-1	95-100	5 mg/m ³

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Mechanical hazard. Dust may cause mechanical irritation to skin, eyes and respiratory tract. Low hazard for usual industrial or commercial handling.

POTENTIAL HEALTH EFFECTS

Inhalation: Product may be mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Excessive contact with powder may cause drying of mucous membranes of nose and throat due to absorption of moisture and oils.

Skin Contact: This product may cause irritation due to abrasive action. Prolonged, confined (especially under the finger nails, under rings or watch bands) or repeated exposure may cause skin irritation. Excessive contact with powder may cause drying of the skin due to absorption of moisture and oils.

Skin Absorption: Not likely to be absorbed through the skin.

Eye Contact: This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils. Product residues on fingers, hands or gloves may contact the eyes and cause eye irritation, redness and pain.

Ingestion: Ingestion is not a likely route of exposure. This product may cause mild gastrointestinal discomfort.

Other Health Effects: Low hazard for usual industrial or commercial handling.

In general, long-term exposure to high concentrations of dust may cause increased mucous flow in the nose and respiratory system airways. This condition usually disappears after exposure stops. Controversy exists as to the role exposure to dust has in the development of chronic bronchitis (inflammation of the air passages into the lungs). Other factors such as smoking and general air pollution are more important, but dust exposure may contribute.

Dust may cause coughing, sneezing and difficulty breathing.

4. FIRST AID MEASURES

Inhalation: If respiratory problems arise, move the victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.

Skin Contact: Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.

Eye Contact: Immediately flush eyes thoroughly for 15 minutes with running water. Hold eyelids open during flushing. If irritation persists, repeat flushing.

Ingestion: Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.

Note to Physicians: Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

5. FIRE-FIGHTING MEASURES

LFL/LEL IN % BY VOLUME OF AIR	UFL/UEL IN % BY VOLUME OF AIR	NFPA 704	FLASH POINT TEMPERATURE	AUTOIGNITION TEMPERATURE
Not available	Not available	0	Non-combustible (does not burn)	Not available

Fire Extinguishing Media Other Information: Use any means suitable for extinguishing surrounding fire in the event of a fire, wear full protective clothing and NIOSH approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear protective clothing if dust in the atmosphere is a problem.

ENVIRONMENTAL PRECAUTIONS: Avoid contaminating public drains or water supply.

SPILL CLEAN UP METHODS: Avoid dust formation. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

7. HANDLING AND STORAGE

HANDLING

Avoid accumulation and dispersion of dust. Clean up immediately to eliminate slipping hazard.

Other Precautions: Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re- use.

STORAGE

Storage Temperature (°C): Store below 50°C

Ventilation Requirements: General exhaust is acceptable.

Storage Requirements: Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Prolonged storage may result in lumping or caking. Protect against physical damage.

Special Materials to be Used for Packaging or Containers: Materials of construction for storing the product include: Multi-layer bags or sacks. Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

General exhaust is acceptable. Local exhaust ventilation preferred. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect.

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection: Safety glasses with side shields are recommended to prevent eye contact. Use dust-tight chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.

Skin Protection: Gloves and protective clothing made from cotton, leather, PVC, rubber or plastic should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA approved dust mask for concentrations of nuisance dust up to 100 mg/m³ particulate. An air-supplied respirator if concentrations are higher or unknown.

EXPOSURE GUIDELINES

SUBSTANCE	ACGIH TLV (TWA)	NIOSH PEL (TWA)	NIOSH REL (TWA)
Yellow Iron Oxide (FeOOH)	5 mg/m ³ as Fe (Dust and Fume)	10 mg/m ³ as Fe (Dust and Fume)	5 mg/m ³ as Fe (Dust and Fume)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance: Yellow powder

Odour: Odourless

Boiling Range (°C): Not applicable

Melting/Freezing Point (°C): > 1 000

Vapour Pressure (mm Hg at 20° C): Not applicable

Vapour Density (Air = 1.0): Not applicable

Relative Density (g/cc): 3.9 - 4.2

Bulk Density (g/cc): 0.40 - 1.20

Viscosity: Not applicable

Evaporation Rate (Butyl Acetate = 1.0): Not applicable

Solubility: Not soluble in water

% Volatile by Volume: 0.

pH: 3-7 in 10% Aqueous suspension

Coefficient of Water/Oil Distribution: Not available

Volatile Organic Compounds (VOC): Not applicable

Flashpoint (°C): Non-combustible (does not burn)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions: Stable.

Under Fire Conditions: Not flammable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures, sparks, open flames and all other sources of ignition. At temperatures greater than 180 Degrees Celsius the product will convert to Iron Oxide Red (Fe₂O₃). Avoid moisture contamination. Minimize air borne spreading of dust.

Materials to Avoid: Strong oxidizers. Strong acids. Strong bases. Hypochlorites. Peroxides. Hydrazine.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA: LD50 (Oral, Rat) 10, 000 mg/kg

Carcinogenicity Data: The ingredient(s) of this product is (are) not classed as carcinogenic by ACGIH, IARC, OSHA or NTP.

Reproductive Data: No adverse reproductive effects are anticipated.

Mutagenicity Data: No adverse mutagenic effects are anticipated.

Teratogenicity Data: No adverse teratogenic effects are anticipated.

Respiratory / Skin Sensitization Data: None known.

12. ECOLOGICAL INFORMATION

Eco-toxicity: Not available. May be harmful to aquatic life.

Environmental Fate: Not available. Product has an unaesthetic appearance and can be a nuisance. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals: None required.

Waste Disposal Methods: This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.

Safe Handling of Residues: Empty containers retain product residue. No special treatment required.

Disposal of Packaging: Recycling is encouraged. Treat package in the same manner as the product. Empty package may be disposed of with normal garbage.

14. TRANSPORTATION INFORMATION

INTERNATIONAL REGULATIONS

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

NATIONAL REGULATIONS

Regulations on carriage of goods danger of Vietnam:

- Decree No. 104/2009 / ND-CP dated 09/11/2009 and Decree No. 29/2005 / ND-CP dated 10/3/2005
Not regulated as dangerous goods

15. REGULATORY INFORMATION

The components of this product are listed on the following inventories:

CH INV: The formulation contains substances listed on the Swiss Inventory, On the inventory, or in compliance with the inventory

DSL: This product contains one or several components listed in the Canadian NDSL.

AICS: On the inventory, or in compliance with the inventory

NZIoC: Not in compliance with the inventory

ENCS: On the inventory, or in compliance with the inventory

KECI: On the inventory, or in compliance with the inventory

PICCS: On the inventory, or in compliance with the inventory

IECSC: On the inventory, or in compliance with the inventory

TCSI: On the inventory, or in compliance with the inventory

TSCA: On the inventory, or in compliance with the inventory

Inventories:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

CANADA

CEPA - NSNR: All components of this product are included on the DSL

CEPA - NPRI: Not included.

Controlled Products Regulations Classification (WHMIS): Not regulated.

USA

Environmental Protection Act: All components of this product are included on The Toxic Substances Control Act (TSCA) inventory.

OSHA HCS (29CFR 1910.1200): Not regulated.

NFPA: 0 Health, 0 Fire, 0 Reactivity

INTERNATIONAL

This product or its components are on the European inventory of existing commercial chemicals (EINECS).

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein,