



Material Safety Data Sheet

Conforms to 1907/2006/EC REACH and additional guidelines from 91/155/EEC amended 2001/58/EEC

Products: **COLORANA[®]** CRM-20, CRM-50

1 Identification / substance / preparation / company

Product-ID.: **COLORANA[®] CRM-20, CRM-50**

REACH

Registration-no.: 01-2119457614-35-0024

Material: Red Iron Oxide Pigment.

Color Index: Pigment Red 101, 77491

Synonyms: Natural hematite, synthetic hematite, ferric oxide, alpha-iron oxide, iron(III)oxide, iron sesquioxide, Caput Mortuum, English red.

Applications: Colourants (pigments), technical applications.

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2 Hazards information

Classification: The substance is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Risk Phrases: No risk phrases according to 67/548/EC Annex I.
Not applicable according to EU-Resolution 1272/2008 (CLP/GHS).

Labelling: No



Other risks not associated with risk phrases which may be attributed to the products

Eye contact: May cause mechanical irritation and soreness.
Skin contact: May cause mechanical irritation and soreness.
Inhalation: May cause mechanical irritation and soreness.

Long term exposure: There are no known or foreseeable long term effects.
Long term exposure to dust in excess of the Occupational Exposure Standard should be avoided. Iron oxide dust may produce a benign pneumoconiosis (siderose).

3 Composition / information on ingredients

Chemical Designation: Hematite, Fe₂O₃

Ingredient name	CAS-no.	%	EINECS	Classification
Diirontrioxide	1309-37-1	97-100	215-168-2	No classification
Iron oxide (Fe ₂ O ₃), Hematite	1317-60-8	97-100	215-275-4	No classification
Iron oxide	1337-37-2	97-100		No classification

The substance contains minor amounts of non-hazardous impurities with no obligation to clarify according to the current regulations.

4 First - aid measures

General: In all cases of doubt or when symptoms persist seek medical advice. No delayed effects anticipated.

Eye contact: Check for and remove any contact lenses. In case of contact with eyes, immediately flush out with water particularly under eyelid. No significant irritation expected other than possible mechanical effects. Obtain medical advice if irritation persists.

Skin contact: Wash with soap and water. Obtain medical advice if irritation persists.

Inhalation: No emergency care anticipated, other than removal from exposure.

Ingestion: Small quantities are unlikely to constitute a health hazard. If large quantities are ingested seek qualified medical advice.

5 Fire - fighting measures

Extinguishing Media: Use appropriate extinguishing media: CO₂, extinguishing powder or water spray.



Special exposure hazards: Remove material from fireplace.

Equipment for fire-fighters: Wear self-contained breathing apparatus (SCBA) and fully protective suit.

6 Accidental release measures

General: Exclude non-essential personnel.

Personal precautions: Avoid breathing dust and skin contact.
Use respiratory protective equipment of sufficiently high standard to prevent exposure in excess of occupational exposure limits.

Environmental precautions: No special measures necessary except for avoid spillage to drains and reservoirs of drinking water due to its potential of colouring.

Methods for cleaning up: Collect spillage mechanically or by vacuum. Reclaim or dispose the material according to section 13.

7 Handling and storage

Local exhaust ventilation: Ensure adequate ventilation / dust extraction so that dust levels are maintained below the occupational exposure standard. If this is not possible use an approved respirator.

Handling: The removal of the polythene film from IBC (big bags) and palletised sacks may generate an electrostatic charge and should therefore not be carried out in atmospheres containing flammable vapours.
Big bags should be handled on pallets or sling hoists designed for the purpose. Never lift using all four loops on a single hook. When using a fork lift truck place two loops over each fork and ensure that the weight is evenly distributed.
Special care should be taken when piling the material. Pallets with big bags or paperbags are unsuitable as foundation.

Storage: Store in a cool and dry place away from strong light.
Once opened, close and seal bags to avoid contamination, moisture uptake and dusting.

Storage Class: 13 "not combustible".



8 Exposure controls / personal protection

Engineering Measures: Provide adequate ventilation. Where reasonably practicable this should be achieved by containment at source, local exhaust ventilation (LEV) and good general extraction. If these are not sufficient to maintain concentrations of particulate below the relevant exposure limits, suitable respiratory protection should be worn.

Occupational Exposure limits:

United Kingdom:

Ingredient name	Type	Exposition	OELV	Person	Effect
Hematite, as Fe	DNEL	STEL	10mg/m ³	worker	local
	DNEL	TWA	5mg/m ³	worker	local
Airborne dust limits: inhalable dust = 10mg/m ³ , respirable dust = 3mg/m ³					

Other countries:

OEL-Austria:	MAK	6 mg/m ³	(dust, fume)
OEL-Belgium:	MAK	5 mg/m ³	(dust, fume)
OEL-Denmark:	TWA	3.5 mg/m ³	(as Fe)
OEL-Finland:	TWA	5 mg/m ³	(dust, fume)
OEL-France:	VME	5 mg/m ³	(dust, fume)
OEL-Germany:	MAK	6 mg/m ³	(dust, fume)
OEL-Italy:	TWA	5 mg/m ³	(as Fe)
OEL-Italy:	STEL	10 mg/m ³	(as Fe)
OEL-The Netherl.:	MAC-TGG	10 mg/m ³	(resp. dust)
OEL-The Netherl.:	MAC-TGG	5 mg/m ³	(inhal. dust)
OEL-Norway:	TWE	3 mg/m ³	(as Fe)
OEL-Norway:	TWE	10 mg/m ³	(dust/fume)
OEL-Poland:	MAC(TWA)	5 mg/m ³	(dust/fume)
OEL-Spain:	VLA-DE	5 mg/m ³	(dust as Fe)
OEL-Sweden:	NGV	3.5 mg/m ³	(dust/fume)
OEL-Switzerland:	MAK-W	6 mg/m ³	(dust/fume)

(MAK=Maximale Arbeitsplatzkonzentration, MAC-TGG= Maximale aanvaarde concentratie-Tijdgewogen gemiddelde, TWA=Time Weighted Average, STEL=Short Term Exposure Limit, VME= Valeurs limites de moyenne d'exposition, VLA-DE=Valores de Eposición Diaria, NGV=Nivågränsvärde)

Personal Protection:

Where LEV is not practicable and exposure is likely to be excessive, approved respiratory protection to CEN standards EN 140 and EN 141, 143 or 149 should be worn.

Wear dust-appropriate suit (tight woven overalls) to avoid dust to reach the skin. Prevent naked skin for soiling. Use rubber safety gloves (EN 420/EN 374) or skin-protecting ointments when direct in contact with the pigment.



Prevent eyes for dust. Use safety glasses with side-shields.
Handle in accordance with good industrial hygiene and safety practice. Keep away from food and drink or smoke at work.
See section 7 and 4.

9 Physical and chemical properties

Appearance:	Fine red powder.
Odour:	Odourless.
pH:	5 - 9 at 50 g/l
Relative density:	5.1g / cm ³
Tamped density:	0.8-1.4g / cm ³
Melting point:	Melting point; above 1500 °C.
Grain size:	Predominantly grain size for the products is from 2 to 10 microns. The products do not contain any nano-size particles <100nm as defined by the technical standard CEN/TS 27687:2008.
Explosionsgefahr(ATEX):	no risk
Solubility:	0,000001 g/l (Water)

10 Stability and reactivity

Solubility:	Insoluble in water and organic solvents. Soluble in strong acids.
Stability:	The product is completely oxidized and will not be capable to react further under oxidizing conditions. The product is not flammable.
Dust explosion (ATEX):	No explosion protection is required. The product is explosion proof under normal conditions.
Hazardous decomposition products:	No decomposition when used as directed.
Incompatibility:	No hazardous reactions if stored and handled as prescribed.

11 Toxicological information

Occupational Exposure limits:	See section 8.
Toxicity:	According to the present state of knowledge this pigment is physiologically harmless. The Product is not classified as dangerous according to 67/548/EEC.



Iron oxide dust is hygroscopic and may result in a dry-out of the human skin.

Toxicological investigations on equivalent products have resulted in as follows:

Acute oral toxicity / LD50 rat: >10000 mg/kg.

Inhalationstudy pigment dust: LC50 rat: >195g/m³ 6h and 2 weeks.

Eye-irritation: not irritant. Under extreme conditions, mechanical action arising from eye contact may cause irritation.

Skin irritation / rabbit/24h: not irritating.

Sensitisation / Maurer optimisation test/guinea pig: not sensitizing.

Genetic toxicity / Ames test on Salmonella typhimurium TA 94, TA98, TA100: negative.

Genetic toxicity / Cytogenetic assay /

Chromosomenaberrationstest: negative.

Cancerogenity: Iron Oxides are currently determined as non-cancerogenic substances according to IARC (International Agency for Research on Cancer) Ferric Oxide with CAS-Nr. 1309-37-1 and Hämatit with CAS 1317-60-8 are listed as

“Group 3“ substances: „not classifiable as to carcinogenity in humans“ definiert.

(<http://www.inchem.org/documents/iarc/suppl7/heamatite.html>)

12 Ecological information

Acute fish toxicity:

Toxicological investigations on equivalent products have resulted in as follows:

OECD 203/EU C.1 test: Daniorerio/LC0 96h: >100000 mg/l.

There is a high probability that the product is not acutely harmful to aquatic organisms.

Acute Bacterial toxicity:

Toxicological investigations on equivalent products have resulted in as follows:

OECD 202/EU C.2 test: Daphnia-Daphnia magna/EC40 48h: >100 mg/l. No harmful effects.

Persistence and degradability:

The product is insoluble in water and can be separated from water by addition of a polyelectrolite as flocculent for iron oxide.

Persistence and bioaccumulation



potential: The product is not readily bioavailable due to its consistency and insolubility in water. **PBT and vPvB free**. The products do not contain **SVHC** as listed in Annex XIV of the REACH Regulation 1907/2006/EWG and amendments.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislations. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable level.

Water pollution:

Water hazard class: **nwg** (low hazard to waters) according to VwVwS of 17.05.1999 amended 01.08.2005, the "Administrative Regulation on the Classification of Substances Harzardous to Waters".

13 Disposal considerations

Product:

The relevant EC Directives and local, regional and national regulations must be followed.
May be disposed of in approved landfill sites provided that all relevant regulations are observed.

Not hazardous waste according to Council Directive 91/689/EEC on hazardous waste.
Product waste classified as EWC-Code: 010308 (75/442/EEC, European Waste Catalogue).

Packaging:

Packaging waste classified as EWC-Code: 15... (75/442/EEC, European Waste Catalogue).

14 Transport information

The products are not classified as dangerous goods according to 67/548/EC and CLP/GHS Regulation 1272/2008/EC.

Free from transport regulations:

UN/SI No.	Not restricted
UN Class	Not restricted
ADR/RID	Not restricted
ADNR	Not restricted
IMDG/GGVSee	Not restricted
ICA/IATA-DGR	Not restricted



15 Regulatory information

- Dangerous substance:** Not classified as a dangerous substance in accordance with 67/548/EEC and 1999/45/EEC (including amendments).
No labelling required. No classification required according to CLP/GHS regulation 1272/2008/EC.
No restriction on Marketing and Use (76/769/EEC).
Not listed and no classification according to VDA 232-101 (List of Declarable Substances).
Not hazardous substance/waste in connection with 2000/53/EEC and amendments (End-of life vehicles).
- PBT and SVHC:** Not part of the products (see section 12).
- Waste:** Not hazardous waste according to Council Directive 91/689/EEC on hazardous waste.
Waste EWC-Code: 01... and 15... according to 75/442/EWG (European Waste List) (see section 13).
- EU regulation – risk phrases:** This product is not classified according to EU legislations.
- International Chemical Inventory Status:** Australian AICS, Canadian DSL/NDSL, European EINECS, Japanese ENCS, Korean KECI, Phillipine PICCS, USA TSCA, China IECSC.
Swiss law of poison (Giftliste 1, Teil B: Verzeichnis der geprüften giftklassfreien Stoffe): G 3717, class of poison free (link to section 11).
- ATEX (94/9/EC):** Non-explosive dust (see section 10).
- TA Luft (air) 2002:** Para 5.2.1 Total Dust and Annex 7, Tab.22: S-Value for “Schwebstaub” (Germany) (see section 12).
- Ozone Protection: (Montreal Protocol)** The Product complies with the principles of the Ozone Action Programme of April 1999, UNEP, “Montreal Protocol on Substances that Deplete the Ozone Layer”.
The production process and product itself do not involve or produce substances known as being harmful to the ozone layer of the Earth.
- VCI Guideline:** Storage Class 13 “not combustible” (see section 7).
- Chemical Weapons Convention (CWC):** The product complies with the principles of the CWC of



19th April 1997. No restrictions on either the production or trade.

16 Other information

Abbreviations:

ATEX = Atmosphere Explosive Direktive.
CAS = Chemical Abstracts Service.
CLP/GHS = Classification, Labelling and Packaging/Globally Harmonized System (Richtlinie 1272/2008 der europäischen Union).
CSR = Chemical Safety Report.
DNEL = Derived-No-Effect-Levels.
EC= European Community.
EEC= European Economic Community.
EINECS = European Inventory of Existing Chemical Substances.
EN = Europäische Norm (Standard) (Germany).
EWG = Europäische Wirtschaftsgemeinschaft.(Germany)
LD = Letale Dosis.
MAK = Maximale Arbeitsplatz Konzentration (OEL Germany)
OECD = Organisation of Economic Co-operation and Development.
OEL= Occupational Exposure Level
PBT/vPvB = Persistence, Bioaccumulation, Toxicity/very Persistent,very Bioaccumulative.
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals (Regulation 1907/2006 of the European Union).
SVHC= Substances of very high concern.
VCI = Verband der Chemischen Industrie eV.
VwVwS = Verwaltungsvorschrift wassergefährdender Stoffe (Waterclass Germany).

The above information is believed to be correct but does not purport to be all inclusive. The information is based on RG Mineral AS`s present knowledge and experience, and is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.

It is the user`s responsibility to satisfy itself as to the suitability and completeness of such information for their own particular use.

For further information on uses and restrictions contact Rana Gruber AS/RG Mineral AS.

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