

MATERIAL SAFETY DATA SHEET**1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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PRODUCT NAME	Zinc Chromate Pigment
TRADE NAMES/SYNONYMS	CHROMIC ACID, ZINC SALT; ZINC CHROME; ZINC YELLOW; ZINC CHROME YELLOW; BASIC ZINC CHROMATE; CHROMIUM ZINC OXIDE; ZINC CHROMATE(VI) HYDROXIDE; ZINC HYDROXYCHROMATE; ZINC TETRAOXYCHROMATE; ZINC TETROXYCHROMATE; PRIMROSE YELLOW; BUTTERCUP YELLOW; CRO4ZN; OHS25370; RTECS GB3290000
PRODUCT CODE	ZC-44
CHEMICAL CLASS	Inorganic Zinc compound, metal salt.

2- COMPOSITION AND INFORMATION ON INGREDIENTS

Cas Number	EC (EINECS) Number	Chemical Name	Formula	% Zinc Chromate
13530-65-9	236-878-9	Zinc Chromate	$4 \cdot \text{ZnO} \cdot \text{K}_2\text{O} \cdot 4\text{CrO}_3$	100

3- HAZARDS IDENTIFICATION

HAZARD DESCRIPTION	T Toxic N Dangerous for the environment
INFORMATION PERTAINING TO PARTICULAR DANGERS FOR MAN AND ENVIRONMENT	R 45 May cause cancer. R 22 Harmful if swallowed. R 43 May cause sensitization by skin contact. R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4- FIRST AID

LIMITS OF EXPOSURE	
LONG TIME EXPOSURE	ACUTE, CHRONIC
	FIRST AID
EYE CONTACT : Harmful.	In case of contact, immediately flush eyes with water for at least 15 min. Call a physician.
SKIN CONTACT : Harmful.	Flush skin with water and soap, Wash clothes before reuse.
INGESTION : --	Call a physician.
INHALATION : Harmful.	If not breathing perform artificial respiration, if breathing give fresh oxygen. Remove to fresh air and call a physician.
TOXIC TYPE :	-
OTHER ADVISES :	As ANTIDOTE : calcium disodium edetate/dextrose, intravenous; calcium disodium edetate/procaine, intramuscular. dimercaprol, intramuscular.

5- FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING AGENTS	CO2, extinguishing powder or water spray. Fight larger fires with water spray.
SPECIAL HAZARDS CAUSED BY THE MATERIAL, ITS PRODUCTS OF COMBUSTION OR RESULTING GASES	In case of fire, the following can be released: Toxic metal oxide fume Corrosive gases/vapours.
PROTECTIVE EQUIPMENT	Wear self-contained respirator. Wear fully protective impervious suit.

6- ACCIDENTAL RELEASE MEASURES

PERSON RELATED SAFETY PRECAUTIONS	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
MEASURES FOR ENVIRONMENTAL PROTECTION	Do not allow material to be released to the environment without proper governmental permits.
MEASURES FOR CLEANING / COLLECTING	Dispose the material according to item 13.
OTHER PROCEDURES	See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7- HANDLING AND STORAGE

STORING and LOADING PRECAUTIONS	Keep away from eye and skin contact. Place in closed containers. Keep away from food. If contacted wash thoroughly.
HANDLING	Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Open and handle container with care.
OTHERS	Do not inhale and protect from flammable media.

8- EXPOSURE CONTROLS AND PERSONAL PROTECTION

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 0.5 m per second.

LD₅₀ : > 5,000 mg/kg.

ZINC CHROMATES:

0.1 mg(CrO₃)/m³ OSHA ceiling

0.01 mg(Cr)/m³ ACGIH TWA

0.001 mg(Cr(VI))/m³ NIOSH recommended TWA 10 hour(s)

MEASUREMENT METHOD: Particulate filter; Reagent; Visible spectrophotometry; NIOSH III # 7600, Hexavalent Chromium.

Components with limit values that require monitoring at the workplace:

Zinc chromate	mg/m ³
TLV	0,05 A2 (as Cr)
USA PEL	0,1 – Ceiling (as CrO ₃)

Personal Protection

EYES	Safety glasses or goggles. Eye-flushing stations.
SKIN	Rubber gloves and protective clothes, apron, impervious gloves.
INHALATION	Vomit and call a physician.
LOCAL VENTILATION EXITS	Mechanical(General) local ventilation is enough.
OTHER PROTECTIVE EQUIPMENTS	The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.

9- PHYSICAL AND CHEMICAL PROPERTIES

FORM	Powder, crystals	SOLUBILITY IN WATER	Insoluble
MELTING POINT	316°C	COLOUR	Yellow
BOILING POINT	N/A	ODOR	Odorless
FREEZING POINT	N/A	MOLECULAR WEIGHT	575,56
BULK DENSITY ±15 %	550kg/m ³	EVAPORATION DENSITY	N/A
SPECIFIC GRAVITY	3,5±0,1	EVAPORATION RATE	N/A
OTHER DATA		pH	7,0±0,1

10- STABILITY AND REACTIVITY

STABILITY	Stable under normal conditions
UNSTABILITY REASONS	Decomposes at 160°C.
POLIMERIZATION and ITS DANGERS	None.
UNSTABILITY CONDITIONS and MATERIALS	Decomposition will not occur if used and stored according to specifications.
DANGEROUS PRODUCTS OF DECOMPOSITION	Toxic metal oxide fume Corrosive gases/vapors.

11- TOXICOLOGICAL INFORMATION

Acute toxicity and primary irritant effect.

ON THE SKIN	Irritant to skin and mucous membranes.
ON THE EYE	Powder: irritant effect
SENSITIZATION	No sensitizing effects known.
EFFECTS OF SHORT TERM EXPOSURE	Inhalation of dust may cause irritation.
EFFECTS OF LONG TERM EXPOSURE OR REPEATED EXPOSURE	Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation exposure may cause asthma. Repeated or prolonged exposure may cause nasal ulceration. This substance is carcinogenic to humans. May cause genetic damage in humans.
CARCINOGEN STATUS	NTP: Known Human Carcinogen; IARC: Human Sufficient Evidence, Animal Sufficient Evidence, Group 1; ACGIH: A1 -Confirmed Human Carcinogen; EC: Category 1 An excess risk for lung and sinonasal cancer has been reported in workers in the chromate production, chromate pigment production and chromium plating industries. Zinc chromate has been tested in rats by intrabronchial implantation, producing bronchial carcinomas, by intrapleural administration, producing local tumors, and by subcutaneous and intramuscular injection, producing local sarcomas.

12- ECOLOGICAL INFORMATION

Also poisonous for fish and plankton in water bodies.

Do not allow material to be released to the environment without proper governmental permits. This substance may be hazardous to the environment; special attention should be given to water organisms.

13- DISPOSAL INFORMATION

Consult state, local or national regulations for proper disposal. Disposal must be made according to official regulations.

14- TRANSPORT INFORMATION

PROPER SHIPPING NAME : INORGANIC TOXIC SOLID,n.o.s.
HAZARD CLASS : 6.1
U.N. NUMBER : 3288
PACKING GROUP : III

Land transport ADR/RID (cross-border)

ADR/RID CLASS : 6.1
U.N. NUMBER : 3288
ITEM : 65C

Maritime transport IMDG:

IMDG CLASS : 6.1
U.N. NUMBER : 3288
PACKING GROUP : III

15-REGULATIONS

T : Toxic

N : Dangerous for the environment.

EUROPEAN RISK and SAFETY CODES

R 45 May cause cancer.
R 22 Harmful if swallowed.
R 43 May cause sensitization by skin contact.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S 53 Avoid exposure - obtain special instructions before use.
S 45 In case of accident or if you feel unwell, seek medical advice immediately.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

16-OTHER INFORMATION

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.