

SAFETY DATA SHEET

Sodium dichromate crystals



00248630

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Sodium dichromate crystals
Use of the substance/mixture : Intermediate for industrial use under strictly controlled conditions.
REACH Registration number : 01-2119435525-40-0000
Supplier/Manufacturer : LANXESS Deutschland GmbH, Industrial & Environmental Affairs

Emergency telephone number : +49 214 30 99300 (Sicherheitszentrale CHEMPARK Leverkusen)

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 67/548/EEC and its amendments.

Classification : O; R8
Carc. Cat. 2; R45
Muta. Cat. 2; R46
Repr. Cat. 2; R60, R61
T+; R26
T; R25, R48/23
Xn; R21
C; R34
R42/43
N; R50/53

Physical/chemical hazards : Contact with combustible material may cause fire.

Human health hazards : May cause cancer. May cause heritable genetic damage. May impair fertility. May cause harm to the unborn child. Also very toxic by inhalation. Also toxic if swallowed. Also toxic: danger of serious damage to health by prolonged exposure through inhalation. Also harmful in contact with skin. Causes burns. May cause sensitisation by inhalation and skin contact.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additional warning phrases : Restricted to professional users.

Classification according to Regulation (EC) 1272/2008 (CLP)

Classification : OXIDIZING SOLIDS - Category 2
ACUTE TOXICITY: ORAL - Category 3
ACUTE TOXICITY: SKIN - Category 4
ACUTE TOXICITY: INHALATION - Category 2
SKIN CORROSION/IRRITATION - Category 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1B

TOXIC TO REPRODUCTION [Fertility,Unborn child] - Category 1B
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)
 - Category 1
 AQUATIC TOXICITY (ACUTE) - Category 1
 AQUATIC TOXICITY (CHRONIC) - Category 1

Hazard statements

: May intensify fire; oxidiser.
 Fatal if inhaled.
 Toxic if swallowed.
 Harmful in contact with skin.
 Causes severe skin burns and eye damage.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 May cause genetic defects.
 May cause cancer.
 May damage fertility.May damage the unborn child.
 Causes damage to organs through prolonged or repeated exposure.
 Very toxic to aquatic life with long lasting effects.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product definition (REACH) : Mono-constituent substance

Classification and labeling according to Directive 67/548/EEC

Ingredient name	CAS number	%	EC number	Classification	REACH number
sodium dichromate, dihydrate	7789-12-0		234-190-3	O; R8 Carc. Cat. 2; R45 Muta. Cat. 2; R46 Repr. Cat. 2; R60, R61 T+; R26 T; R25, R48/23 Xn; R21 C; R34 R42/43 N; R50/53	01-2119435525-40-0000

Classification and labeling according to Regulation (EC) 1272/2008 (CLP)

Ingredient name	CAS number	%	Index number	Classification	REACH number
sodium dichromate, dihydrate	7789-12-0		024-004-01-4	OXIDIZING SOLIDS - Category 2 ACUTE TOXICITY: ORAL - Category 3 ACUTE TOXICITY: SKIN - Category 4 ACUTE TOXICITY: INHALATION - Category 2 SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION [Fertility , Unborn child] - Category	01-2119435525-40-0000

Ingredient name	CAS number	%	Index number	Classification	REACH number
				1B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 AQUATIC TOXICITY (ACUTE) - Category 1 AQUATIC TOXICITY (CHRONIC) - Category 1	

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

First-aid measures

- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Ingestion** : Get medical attention immediately. Allow the patient to drink 5 - 10 g ascorbic acid (not effervescent tablets) dissolved in water. This dose can be repeated several times.
- Skin contact** : In case of contact, immediately flush skin with plenty of water. Get medical attention immediately. If the skin becomes scratched or wounded, dab it with saturated gauze pads or compresses using a freshly made up ascorbic acid solution (10 g in 100 g water). Seek medical advice immediately. Give the patient 2 g ascorbic acid (vitamin C) immediately.
- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

See section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Not suitable** : None known.
- Special exposure hazards** : Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous combustion products** : Decomposition products may include the following materials:
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Avoid exposure - obtain special instructions before use. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

7. HANDLING AND STORAGE

- Handling** : Avoid exposure - obtain special instructions before use. Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved

alternative made from a compatible material, kept tightly closed when not in use. Keep away from combustible material. Empty containers retain product residue and can be hazardous. The product is registered with strictly controlled conditions as defined in Article 17(3) or 18(4) of regulation (EC) no. 1907/2006 (REACH Regulation) and must therefore be handled as such. Refer to the industry guidance prepared by Concawe/Cefic/EFCG for advice on the confirmation of strictly controlled conditions.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values : Not available.

sodium dichromate, dihydrate:

No workplace limit value(OEL) fixed. Additional protective measures must be complied with, in particular:

- Measurements for the early detection of increased exposure as a result of an unforeseen incident;
- Cordoning off of the hazardous areas and display of warning and hazard signs, including a sign saying "Smoking prohibited", in areas where exposure is possible;
- Extracted air must not be returned to the system without being treated first.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Risk management measures

Occupational exposure controls

Technical measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection measures

Respiratory protection : If exposure cannot be ruled out, e.g. during product transfer, sampling or maintenance, a well-fitting respiratory mask conforming to standards or well-fitting respiratory device conforming to standards must be worn. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: Full mask with type ABEK filter P3 .

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if product contact cannot be excluded. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations <1 hours (breakthrough time): Nitrile rubber - NBR .
- Eye protection** : Safety eyewear complying with an approved standard should be used to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: Tightly fitting safety goggles.
- Skin protection** : Wear protective clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: chemical-resistant protective suit .
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

- Technical measures** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, special waste water treatment, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

- Physical state** : Solid. [crystalline]
Colour : Orange.
Odour : Odourless.

Important health, safety and environmental information

- pH** : 3,5 [Conc. (% w/w): 10%]
Boiling point : 450 °C (1013 hPa)
Melting point : 84°C (183.2°F) *decomposition
Density : 2,5 kg/L (20 °C)
Bulk density : 1200 kg/m³
- Solubility** : 2355 g/l (water)
Combustibility at 20 °C : BZ 1 = no ignition (VDI 2263).

10. STABILITY AND REACTIVITY

- Stability** : The product is stable.
- Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing or intensifying fire
- Decomposition temperature** : >400°C
- Conditions to avoid** : Avoid exposure - obtain special instructions before use. Avoid release to the environment.
- Materials to avoid** : Reactive or incompatible with the following materials:
combustible materials
reducing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

- Inhalation** : Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Ingestion** : Toxic if swallowed. May cause burns to mouth, throat and stomach.
- Skin contact** : Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction.
- Eye contact** : Corrosive to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Sodium dichromate, dihydrate	LD50 Oral	- Rat - Male	123,5 mg/kg	-	-
	LD50 Oral	- Rat - Female	86,5 mg/kg	-	-
Sodium dichromate, dihydrate	LD50 Dermal	- rabbit	>2000 mg/kg	-	-
Sodium dichromate, dihydrate	LC50 Inhalation Dusts and mists	- Rat	94 mg/m ³	4 hours	-

Potential chronic health effects

Mutagenicity

Product/ingredient name	Test	Experiment	Result
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Product/ingredient name	Result	Species	Dose	Exposure	Test
sodium dichromate, dihydrate	OECD 471 Bacterial Reverse Mutation Test			In vitro; Bacteria	Positive
	OECD 473 In vitro Mammalian Chromosomal Aberration Test			In vitro; Bacteria	Positive
	OECD 476 In vitro Mammalian Cell Gene Mutation Test			In vitro; Bacteria	Positive

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : May cause genetic defects.

Teratogenicity : May damage the unborn child.

Fertility effects : Can impair fertility.

Chronic effects : Causes damage to organs through prolonged or repeated exposure.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Remarks : Chromium(VI) compounds are absorbed by the body after direct contact with the skin and mucous membranes. In susceptible people sensitisation is possible. Inhalation may lead to ulceration of the mucous membranes of the nose.

12. ECOLOGICAL INFORMATION

Ecotoxicity data

Product/ingredient name	Test	Result	Species	Exposure
sodium dichromate, dihydrate	-	Acute EC50 3,5 mg/L	- Bacteria - Escherichia coli	24 hours
	-	Acute EC50 0,035 mg/L	- Daphnia - Daphnia magna	48 hours
	-	Acute IC50 0,233 mg/L	- Algae - Selenastrum capricornutum	72 hours
	-	Acute LC50 25 mg/L	- Fish - Cyprinodon	96 hours



Product/ingredient name	Test	Result	Species	Exposure
	-	Chronic NOEC - 60 mg/L	variegatus Daphnia - Daphnia magna	21 days
	-	Chronic NOEC - 0,105 mg/L	Fish - Salvelinus namaycush	60 days
	-	Chronic NOEC - 0,1 mg/L	Algae - Spirodela polyrhiza	8 days









- Environmental effects** : Very toxic to aquatic life with long lasting effects.
- AOX** : The product does not contain organically bound halogens which could lead to an AOX value in waste water.
- Remarks** : The product does not release nitrogen which can contribute to eutrophication.
The product does not contain phosphates or organophosphorus compounds.

13. DISPOSAL CONSIDERATIONS

- Methods of disposal** : Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).
- Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

Regulation	UN number	Proper shipping name	Class	PG	Label	Additional information
ADR/RID	UN3288	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM DICHROMATE)	6.1	III	 	Hazard identification number 60 Limited quantity LQ18

Regulation	UN number	Proper shipping name	Class	PG	Label	Additional information
GGVSE	UN3288	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM DICHROMATE)	6.1	III	 	Hazard identification number 60 Limited quantity LQ18
ADNR	UN3288	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM DICHROMATE)	6.1	III	 	Hazard identification number 60 Limited quantity LQ18
IMDG	UN3288	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM DICHROMATE)	6.1	III	 	Emergency schedules (EmS) F-A, S-A
IATA	UN3288	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM DICHROMATE)	6.1	III	 	Passenger aircraft 613: 25 kg Cargo aircraft 615: 100 kg

PG: Packing group

Slightly toxic.
Irritating to skin and eyes.
Keep separated from foodstuffs.

15. REGULATORY INFORMATION

EU regulations

Classification and labeling according to Regulation (EC) 1272/2008 (CLP)

Hazard symbol or symbols :



Signal word

: Danger

Contains

sodium dichromate, dihydrate

Hazard statements : May intensify fire; oxidiser.
Fatal if inhaled.
Toxic if swallowed.
Harmful in contact with skin.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
May damage fertility. May damage the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Obtain special instructions before use. Avoid release to the environment.

Response : Get medical advice/attention if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

16. OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3 - Europe : R8- Contact with combustible material may cause fire.
R45- May cause cancer.
R46- May cause heritable genetic damage.
R60- May impair fertility.
R61- May cause harm to the unborn child.
R26- Also very toxic by inhalation.
R25- Also toxic if swallowed.
R48/23- Also toxic: danger of serious damage to health by prolonged exposure through inhalation.
R21- Also harmful in contact with skin.
R34- Causes burns.
R42/43- May cause sensitisation by inhalation and skin contact.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Remarks : The product is registered with strictly controlled conditions as defined in Article 17(3) or 18(4) of regulation (EC) no. 1907/2006 (REACH Regulation) and must therefore be handled as such.

History

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☑ Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.