

# SAFETY DATA SHEET

Creation Date 16-Nov-2010 Revision Date 21-Mar-2022 Revision Number 3

# 1. Identification

Product Name Sodium dichromate, dihydrate

Cat No.: 12611

CAS No 7789-12-0

Synonyms Sodium bichromate

Recommended Use Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

# Details of the supplier of the safety data sheet

## Company

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660 Fax: 800-322-4757 **Email:** tech@alfa.com

www.alfa.com

**Emergency Telephone Number** 

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.

After normal business hours, call Carechem 24 at (866) 928-0789.

# 2. Hazard(s) identification

# Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids Category 2 Acute oral toxicity Category 3 Acute dermal toxicity Category 4 Acute Inhalation Toxicity - Dusts and Mists Category 2 Skin Corrosion/Irritation Category 1 B Serious Eye Damage/Eye Irritation Category 1 Respiratory Sensitization Category 1 Skin Sensitization Category 1 Category 1B Germ Cell Mutagenicity Carcinogenicity Category 1B Reproductive Toxicity Category 1B Specific target organ toxicity (single exposure) Category 3 Target Organs - Respiratory system. Specific target organ toxicity - (repeated exposure) Category 1

Target Organs - Liver, Kidney, Blood.

#### **Label Elements**

#### Signal Word

Danger

#### **Hazard Statements**

May intensify fire; oxidizer

Toxic if swallowed

Harmful in contact with skin

Causes severe skin burns and eye damage

May cause respiratory irritation

May cause an allergic skin reaction

Fatal if inhaled

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause genetic defects

May cause cancer

May damage fertility. May damage the unborn child

Causes damage to organs through prolonged or repeated exposure



# **Precautionary Statements**

# Prevention

In case of inadequate ventilation wear respiratory protection

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep/Store away from clothing/ other combustible materials

Take any precaution to avoid mixing with combustibles

# Response

Immediately call a POISON CENTER or doctor/physician

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

#### Skin

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing **Ingestion** 

Rinse mouth

Do NOT induce vomiting

# Sodium dichromate, dihydrate

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

**Disposal** 

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

# 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Sodium dichromate dihydrate	7789-12-0	<=100
Sodium dichromate	10588-01-9	-

# 4. First-aid measures

**General Advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth

method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and

effects

Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Product is a corrosive material. Use

of gastric lavage or emesis is contraindicated. Possible perforation of stomach or

esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash,

itching, swelling, trouble breathing, tingling of the hands and feet, dizziness,

lightheadedness, chest pain, muscle pain or flushing

Notes to Physician Treat symptomatically

# 5. Fire-fighting measures

Suitable Extinguishing Media CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media No information available

Flash Point No information available No information available

**Autoignition Temperature** 

**Explosion Limits** 

Upper Lower No information available

No data available No data available

#### **Oxidizing Properties**

Oxidizer

Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available

# **Specific Hazards Arising from the Chemical**

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

#### **Hazardous Combustion Products**

Toxic fumes. Chromium oxide. Sodium oxides.

#### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

#### NFPA

Health	Flammability	Instability	Physical hazards
4	0	1	OX

# 6. Accidental release measures

#### **Personal Precautions**

#### **Environmental Precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid dust formation. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

# Up

Methods for Containment and Clean Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

# Handling and storage

#### Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe (dust, vapor, mist, gas). Avoid dust formation. Keep away from clothing and other combustible materials.

Storage.

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Do not store near combustible materials. Incompatible Materials. Organic materials. Acids. Water. Strong bases. Acid anhydrides. Metals. Reducing Agent. Finely powdered metals. Strong reducing agents. Combustible material.

# 8. Exposure controls / personal protection

#### **Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Sodium dichromate dihydrate	TWA: 0.0002 mg/m³ STEL: 0.0005 mg/m³ Skin	(Vacated) Ceiling: 0.1 mg/m³ Ceiling: 0.1 mg/m³	IDLH: 15 mg/m³ TWA: 0.0002 mg/m³	TWA: 0.05 mg/m <sup>3</sup>
Sodium dichromate	TWA: 0.0002 mg/m³ STEL: 0.0005 mg/m³ Skin	(Vacated) Ceiling: 0.1 mg/m³ Ceiling: 0.1 mg/m³	IDLH: 15 mg/m <sup>3</sup> TWA: 0.0002 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>

# Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Use only under a chemical fume hood. Ensure that evewash stations and safety showers

are close to the workstation location. Ensure adequate ventilation, especially in confined

areas.

Personal Protective Equipment

**Eye/face Protection** Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

# 9. Physical and chemical properties

**Physical State** Solid **Appearance** Orange Odorless Odor

**Odor Threshold** No information available 3.5-3.9 5% aq.sol рH

**Melting Point/Range** 357 °C / 674.6 °F

**Boiling Point/Range** 400 °C / 752 °F @ 760 mmHg Flash Point No information available

**Evaporation Rate** Not applicable

Flammability (solid,gas) No information available

Flammability or explosive limits

No data available Upper Lower No data available **Vapor Pressure** No information available **Vapor Density** Not applicable

No information available **Specific Gravity** 

Solubility No information available Partition coefficient; n-octanol/water No data available **Autoignition Temperature** No information available

400 °C **Decomposition Temperature** 

**Viscosity** Not applicable Molecular Formula Cr2 Na2 O7 . 2 H2 O

**Molecular Weight** 

# 10. Stability and reactivity

**Reactive Hazard** Yes

Stability Oxidizer: Contact with combustible/organic material may cause fire.

**Conditions to Avoid** Incompatible products. Excess heat. Combustible material.

Organic materials, Acids, Water, Strong bases, Acid anhydrides, Metals, Reducing Agent, **Incompatible Materials** 

Finely powdered metals, Strong reducing agents, Combustible material

Hazardous Decomposition Products Toxic fumes, Chromium oxide, Sodium oxides

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

# 11. Toxicological information

**Acute Toxicity** 

**Product Information Component Information** 

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	
Sodium dichromate	LD50 = 46 mg/kg (Rat)	LD50 = 960 mg/kg (Rabbit)	LC50 = 200 mg/m <sup>3</sup> (Rat) 4 h	

**Toxicologically Synergistic** 

No information available

**Products** 

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Causes burns by all exposure routes Irritation

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Sodium dichromate	7789-12-0	Not listed	Known	A1	X	A1
dihydrate						
Sodium dichromate	10588-01-9	Group 1	Known	A1	X	A1

IARC (International Agency for Research on Cancer)

NTP: (National Toxicity Program)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program) Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human

Carcinogen

ACGIH: (American Conference of Governmental Industrial

Hygienists)

A1 - Known Human Carcinogen A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists) Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen A2 - Suspected Human Carcinogen A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen A5 - Not Suspected as a Human Carcinogen

**Mutagenic Effects** Mutagenic

Possible risk of impaired fertility. **Reproductive Effects** 

**Developmental Effects** No information available.

**Teratogenicity** Teratogenic effects have occurred in experimental animals.

STOT - single exposure Respiratory system STOT - repeated exposure Liver Kidney Blood

**Aspiration hazard** No information available

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the

hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

# 12. Ecological information

## Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium dichromate	Not listed	LC50: = 69 mg/L, 96h	Not listed	EC50: 0.098 - 0.129 mg/L,
		flow-through (Oncorhynchus		48h (Daphnia magna)
		mykiss)		
		LC50: = 213 mg/L, 96h static		
		(Lepomis macrochirus)		
		LC50: = 33.2 mg/L, 96h		
		flow-through (Pimephales		
		promelas)		
		i í		

Persistence and Degradability

based on information available. May persist

**Bioaccumulation/ Accumulation** 

No information available.

**Mobility** 

Will likely be mobile in the environment due to its water solubility.

# 13. Disposal considerations

**Waste Disposal Methods** 

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

# 14. Transport information

DOT

**UN-No** UN3087

Proper Shipping Name OXIDIZING SOLID, TOXIC, N.O.S. Technical Name Sodium dichromate dihydrate

Hazard Class 5.1 Subsidiary Hazard Class 6.1 Packing Group II

TDG

UN-No UN3087

**Proper Shipping Name** OXIDIZING SOLID, TOXIC, N.O.S.

Hazard Class 5.1 Subsidiary Hazard Class 6.1 Packing Group II

<u>IATA</u>

UN-No UN3087

**Proper Shipping Name** OXIDIZING SOLID, TOXIC, N.O.S.

Hazard Class 5.1 Subsidiary Hazard Class 6.1 Packing Group II

IMDG/IMO

UN-No UN3087

Proper Shipping Name OXIDIZING SOLID, TOXIC, N.O.S.

Hazard Class 5.1 Subsidiary Hazard Class 6.1 Packing Group II

# 15. Regulatory information

#### **United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification -	TSCA - EPA Regulatory
-			Active-Inactive	Flags

# Sodium dichromate, dihydrate

Sodium dichromate dihydrate	7789-12-0	-	-	-
Sodium dichromate	10588-01-9	X	ACTIVE	R

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed '-' - Not Listed

# TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

# TSCA 12(b) - Notices of Export

Component	CAS No	TSCA 12(b) - Notices of Export
Sodium dichromate dihydrate	7789-12-0	Section 6
Sodium dichromate	10588-01-9	Section 6

## International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Sodium dichromate dihydrate	7789-12-0	-	-	-	Х	-		Χ	Х	-
Sodium dichromate	10588-01-9	Х	-	234-190-3	Χ	Χ	Χ	Χ	Х	KE-31410

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

# U.S. Federal Regulations

#### **SARA 313**

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Sodium dichromate dihydrate	7789-12-0	<=100	0.1
Sodium dichromate	10588-01-9	-	0.1

# SARA 311/312 Hazard Categories See section 2 for more information

**CWA (Clean Water Act)** 

OTTA (Oldali Tratol Adt)					
Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	
Sodium dichromate dihydrate	-	-	X	-	
Sodium dichromate	X	10 lb	X	-	

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sodium dichromate dihydrate	X		-
Sodium dichromate	X		-

#### **OSHA** - Occupational Safety and

Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Sodium dichromate dihydrate	5 μg/m³ TWA	-
,	2.5 μg/m³ Action Level	
Sodium dichromate	5 μg/m³ TWA	-
	2.5 µg/m³ Action Level	

# CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium dichromate	10 lb	-

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## **California Proposition 65**

This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Sodium dichromate dihydrate	7789-12-0	Carcinogen Developmental Female Reproductive Male Reproductive	-	Developmental Carcinogen
Sodium dichromate	10588-01-9	Carcinogen Developmental Female Reproductive Male Reproductive	-	Developmental Carcinogen

# U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium dichromate dihydrate	-	Х	Х	Х	Х
Sodium dichromate	X	X	X	X	X

# **U.S. Department of Transportation**

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

# U.S. Department of Homeland

Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

## Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Sodium dichromate dihydrate	Carcinogenic Category 1B, Mutagenic Category 1B, Toxic for reproduction Category 1B Article 57 Application date: March 21, 2016 Sunset date: September 21, 2017 Exemption - None	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 47. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 234-190-3 - Carcinogenic, Article 57a;Mutagenic, Article 57b;Toxic for reproduction, Article 57c
Sodium dichromate	Carcinogenic Category 1B, Mutagenic Category 1B, Toxic for reproduction Category 1B Article 57 Application date: March 21, 2016 Sunset date: September 21, 2017 Exemption - None	Use restricted. See item 72. (see link for restriction details) Use restricted. See item 28. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 29. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) Use restricted. See item 47. (see link for restriction details)	SVHC Candidate list - 234-190-3 - Carcinogenic, Article 57a;Mutagenic, Article 57b;Toxic for reproduction, Article 57c

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

https://echa.europa.eu/authorisation-list

https://echa.europa.eu/substances-restricted-under-reach

https://echa.europa.eu/candidate-list-table

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Sodium dichromate dihydrate	7789-12-0	Not applicable	Not applicable	Not applicable	Not applicable
Sodium dichromate	10588-01-9	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium dichromate dihydrate	7789-12-0	Not applicable	Not applicable	Not applicable	Annex I - Y21
Sodium dichromate	10588-01-9	Not applicable	Not applicable	Not applicable	Annex I - Y21

# 16. Other information

Prepared By Health, Safety and Environmental Department

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**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 7789-12-0.

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**