

**Ammonium dichromate**

Version number: GHS 2.0  
Replaces version of: 2019-03-06 (GHS 1)

Revision: 2019-03-20

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Identification of the substance	<b>Ammonium dichromate</b>
Registration number (REACH)	this information is not available
CAS number	7789-09-5
Alternative name(s)	Ammonium dichromate, diammonium [(oxidodi-oxochromio)oxy]chromiumoylolate
Article number	A0039077

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses	General use
Uses advised against	Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.

**1.3 Details of the supplier of the safety data sheet**

Chemos GmbH & Co. KG  
Sonnenring 7  
84032 Altdorf  
Germany  
  
Telephone: +49 871-966346-0  
Telefax: +49 871-966346-13  
e-mail: chemos@chemos.de  
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

**1.4 Emergency telephone number**

Emergency information service  
This number is only available during the following office hours: Mon - Thu 08:00 AM - 05:00 PM, Fri 08:00 AM - 12:00 PM

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.14	oxidising solid	2	Ox. Sol. 2	H272
3.10	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
3.1I	acute toxicity (inhal.)	2	Acute Tox. 2	H330
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.4R	respiratory sensitisation	1	Resp. Sens. 1	H334
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.5	germ cell mutagenicity	1B	Muta. 1B	H340

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Section	Hazard class	Category	Hazard class and category	Hazard statement
3.6	carcinogenicity	1B	Carc. 1B	H350
3.7	reproductive toxicity	1B	Repr. 1B	H360FD
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
3.9	specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms



- Hazard statements

- H272 May intensify fire; oxidiser.
- H301 Toxic if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H360FD May damage fertility. May damage the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

- Precautionary statements

- P201 Obtain special instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	ammonium dichromate
Identifiers	
CAS No	7789-09-5
EC No	232-143-1
Index No	024-003-00-1

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential. Oxidising property.

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Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

**6.3 Methods and material for containment and cleaning up**

Advices on how to contain a spill

Covering of drains, Take up mechanically

Advices on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

- Handling of incompatible substances or mixtures

- Keep away from

Organic absorbing material, Pulp/paper

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Flammability hazards

Keep valves and fittings free from oil and grease.

- Incompatible substances or mixtures

Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
EU	chromium(VI) compounds	7789-09-5	IOELV		0.005					Cr, CrVI-limit	2017/2398/EU
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005
GB	chromium(VI) compounds	7789-09-5	WEL		0.05					Cr	EH40/2005

#### Notation

Ceiling-C

ceiling value is a limit value above which exposure should not occur

Cr

CrVI-limit

limit value 0,010 mg/m<sup>3</sup> until 17 January 2025

Limit value: 0,025 mg/m<sup>3</sup> for welding or plasma cutting processes or similar work processes that generate fume until 17 January 2025

i

inhalable fraction

r

respirable fraction

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours

time-weighted average (unless otherwise specified)

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Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
GB	chromium(VI) compounds	chromium	crea	BMGV	10 µmol/mol	EH40/2005

Notation

crea creatinine

**8.2 Exposure controls**

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

**Appearance**

Physical state	solid
Colour	various
Odour	characteristic

**Other safety parameters**

pH (value)	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined

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Flammability (solid, gas)	this material is combustible, but will not ignite readily
Explosion limits of dust clouds	not determined
Vapour pressure	not determined
Density	not determined
Vapour density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not relevant (solid matter)
Explosive properties	none
Oxidising properties	oxidiser

**9.2 Other information**

Solid content	100 %
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**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Oxidising property.

**10.2 Chemical stability**

See below "Conditions to avoid".

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

**10.5 Incompatible materials**

Oxidisers, Combustible materials

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Classification according to GHS (1272/2008/EC, CLP)**

## Acute toxicity

Toxic if swallowed. Harmful in contact with skin. Fatal if inhaled.

## - Acute toxicity estimate (ATE)

Oral	100 mg/kg
Dermal	1,100 mg/kg
Inhalation: dust/mist	0.05 mg/l/4h

## Skin corrosion/irritation

Causes severe skin burns and eye damage.

## Serious eye damage/eye irritation

Causes serious eye damage.

## Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

## Germ cell mutagenicity

May cause genetic defects.

## Carcinogenicity

May cause cancer.

## Reproductive toxicity

May damage the unborn child. May damage fertility.

## Specific target organ toxicity - single exposure

May cause respiratory irritation.

## Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

## Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

**SECTION 12: Ecological information****12.1 Toxicity**

Very toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.



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**12.6 Other adverse effects**

Data are not available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**


Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

**SECTION 14: Transport information**

<b>14.1 UN number</b>	1439
<b>14.2 UN proper shipping name</b>	AMMONIUM DICHROMATE
<b>14.3 Transport hazard class(es)</b>	
Class	5.1 (oxidizing substances) (environmentally hazardous)
<b>14.4 Packing group</b>	II (substance presenting medium danger)
<b>14.5 Environmental hazards</b>	hazardous to the aquatic environment
<b>14.6 Special precautions for user</b>	
	Provisions for dangerous goods (ADR) should be complied within the premises.
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

**Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

UN number	1439
Proper shipping name	AMMONIUM DICHROMATE
Class	5.1
Classification code	O2
Packing group	II
Danger label(s)	5.1, fish and tree
	
Environmental hazards	YES (hazardous to the aquatic environment)
Exempted quantities (EQ)	E2

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Limited quantities (LQ)	1 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	50
Emergency Action Code	1Y
<b>International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	1439
Proper shipping name	AMMONIUM DICHROMATE
Class	5.1
Marine pollutant	YES (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	5.1, fish and tree
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
EmS	F-H, S-Q
Stowage category	A
Segregation group	2 - Ammonium compounds
<b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	1439
Proper shipping name	Ammonium dichromate
Class	5.1
Environmental hazards	YES (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	5.1
Excepted quantities (EQ)	E2
Limited quantities (LQ)	2,5 kg

**SECTION 15: Regulatory information**

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

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance.

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**SECTION 16: Other information**

**Indication of changes (revised safety data sheet)**

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.3	Class: 5.1 (oxidizing substances)	Class: 5.1 (oxidizing substances) (environmentally hazardous)	yes

**Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

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Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

Code	Text
H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.