

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 2.1 Revision Date 17.11.2018

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

### 1.1 Product identifiers

Product name : Sodium dichromate dihydrate

Product Number : PRD5700

Brand : Better Equipped

Index-No. : 024-004-00-7

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

CAS-No. : 7789-12-0

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

Identified uses : Scientific research and development

Uses advised against : Not for sale to the general public

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

Company : Better Equipped,  
Wrenbury Business Park,  
Wrenbury Road,  
Wrenbury,  
Nantwich, Cheshire,  
CW5 8EB, UK

Telephone +44 (0) 800 9707142

Fax +44 (0) 800 066 4443

E-mail address [sales@betterequipped.co.uk](mailto:sales@betterequipped.co.uk)

### 1.4 Emergency telephone number

Emergency Phone # +44 (0)1270 781238

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Oxidizing solids (Category 2), H272

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 4), H312

Skin corrosion (Category 1B), H314

Respiratory sensitisation (Category 1), H334

Skin sensitisation (Category 1), H317

Germ cell mutagenicity (Category 1B), H340

Carcinogenicity (Category 1B), H350

Reproductive toxicity (Category 1B), H360FD

Specific target organ toxicity - repeated exposure (Category 1), H372

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H272	May intensify fire; oxidizer.
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.
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 statement(s)

P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331 + P310	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements

Restricted to professional users.

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	:	Sodium bichromate
Formula	:	Cr <sub>2</sub> Na <sub>2</sub> O <sub>7</sub> · 2H <sub>2</sub> O
Molecular weight	:	298.00 g/mol
CAS-No.	:	7789-12-0
EC-No.	:	234-190-3
Index-No.	:	024-004-00-7

### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Sodium dichromate dihydrate</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No.	7789-12-0	Ox. Sol. 2; Acute Tox. 3; Acute <= 100 %

EC-No. Index-No.	616-541-6 024-004-00-7	Tox. 2; Acute Tox. 4; Skin Corr. 1B; Resp. Sens. 1; Skin Sens. 1; Muta. 1B; Carc. 1B; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H301, H330, H312, H314, H334, H317, H340, H350, H360FD, H372, H400, H410 Concentration limits: >= 5 %: STOT SE 3, H335; >= 0.2 %: Resp. Sens. 1, H334; >= 0.2 %: Skin Sens. 1, H317; M-Factor - Aquatic Acute: 10	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder, Dry sand

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

The substance is non-flammable but may ignite combustible material on contact. Fire may produce irritating, corrosive and/or toxic gases. Strong oxidizer.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Prevent fire extinguishing water from contaminating surface or ground water.

### 5.4 Further information

Use water spray to cool unopened containers.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- 6.1.1 For non-emergency personnel

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

- 6.1.2 For emergency responders

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Avoid contact with a combustible material (wood, paper, oil, clothing).

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from heat and sources of ignition.

7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.
- Wash hands after use.
- Remove contaminated clothing.

For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Separate from acids, alkalis, reducing agents and combustible materials.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Control Parameters

#### 8.1.1 Components with workplace control parameters – National Limit Values

Component	CAS-No.	Value Form of exposure	Control parameters	Basis
Sodium dichromate dihydrate	7789-12-0	TWA	0.05 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits

**Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	chromium	10µmol/m of creatinine	Urine	UK. Biological monitoring guidance values
	Remarks	After shift			

**8.1.2 Information on currently recommended monitoring procedures**

For currently recommended monitoring procedures, see HSE series 'Methods for the Determination of Hazardous Substances' (MDHS)

**8.1.3 The relevant DNELs and PNECs for the substance/s for the exposure scenarios:**

**DNEL's.** The derived no- or minimum effect level (DN(M)EL) is the level of exposure above which a human should not be exposed to a substance. Please note that when more than one summary is provided, DN(M)EL values may refer to constituents of the substance and not to the substance as a whole.

**Data for WORKERS**

<b>INHALATION Exposure</b>	<b>Threshold</b>	<b>Most sensitive study</b>
Systemic Effects		
Long-term:	(DNEL) 30 µg/m <sup>3</sup>	developmental toxicity / teratogenicity
Acute /short term:	High hazard (no threshold derived)	
Local Effects		
Long-term:	(DMEL) 10 µg/m <sup>3</sup>	carcinogenicity
Acute /short term:	High hazard (no threshold derived)	
<b>DERMAL Exposure</b>	<b>Threshold</b>	<b>Most sensitive study</b>
Systemic Effects		
Long-term:	(DNEL) 27 µg/kg bw/day	developmental toxicity / teratogenicity
Acute /short term:	High hazard (no threshold derived)	
Local Effects		
Long-term:	High hazard (no threshold derived)	
Acute /short term:	High hazard (no threshold derived)	
<b>EYE Exposure</b>		
High hazard (no threshold derived)		

**Data for the GENERAL POPULATION**

<b>INHALATION Exposure</b>	<b>Threshold</b>	<b>Most sensitive study</b>
Systemic Effects		
Long-term:	(DNEL) 7 µg/m <sup>3</sup>	developmental toxicity / teratogenicity
Acute /short term:	Medium hazard (no threshold derived)	
Local Effects		
Long-term:	High hazard (no threshold derived)	
Acute /short term:	High hazard (no threshold derived)	
<b>DERMAL Exposure</b>	<b>Threshold</b>	<b>Most sensitive study</b>
Systemic Effects		
Long-term:	(DNEL) 13 µg/kg bw/day	developmental toxicity / teratogenicity
Acute /short term:	High hazard (no threshold derived)	
Local Effects		
Long-term:	High hazard (no threshold derived)	
Acute /short term:	High hazard (no threshold derived)	
<b>ORAL Exposure</b>	<b>Threshold</b>	<b>Most sensitive study</b>
Systemic Effects		
Long-term:	High hazard (no threshold derived)	
Acute /short term:	High hazard (no threshold derived)	
<b>EYE Exposure</b>		
High hazard (no threshold derived)		

**PNEC's.** The Predicted No-Effect Concentration (PNEC) value is the concentration of a substance below which adverse effects in the environment are not expected to occur. Please note that when more than one summary is provided, PNEC values may refer to constituents of the substance and not to the substance as a whole.

<b>Hazard for Aquatic Organisms</b>	
Freshwater	4.7 µg/L
Intermittent releases (freshwater)	-
Marine water	-
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	210 µg/L
Sediment (freshwater)	150 µg/kg sediment dw
Sediment (marine water)	0.15 ng/kg sediment dw
<b>Hazard for Air</b>	
Air	-
<b>Hazard for Terrestrial Organism</b>	
Soil	35 µg/kg soil dw
<b>Hazard for Predators</b>	
Secondary poisoning	17 000 g/kg food

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use Local exhaust ventilation (LEV).

### Personal protective equipment

#### Eye/face protection

Wear a face shield and safety glasses - use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Ensure a complete suit protecting against chemicals is worn. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.



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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

a) Appearance	Form: solid
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point: 357 °C
f) Initial boiling point and boiling range	No data available
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	2.350 g/cm <sup>3</sup>
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2

**9.2 Other safety information**

No data available

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

May react with strong oxidizers.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Excessive heat. Contact with incompatible materials (see below – section 10.5).

**10.5 Incompatible materials**

Strong reducing agents, Alcohols, Combustible materials.

**10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Sodium oxides, Chromium oxides

Other decomposition products - No data available.

In the event of fire: see section 5

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - 50 mg/kg

LC50 Inhalation – Rat (4h) – 0.14 mg/l

LD50 Dermal – Rabbit – 1,140 mg/kg

**Skin corrosion/irritation**

Causes skin burns

**Serious eye damage/eye irritation**

Causes Serious eye damage

**Respiratory or skin sensitisation**

May cause sensitisation by skin contact.

**Germ cell mutagenicity**

May alter genetic material.

In vivo tests showed mutagenic effects

Rat

Liver

DNA damage

Hamster

Lungs

Sister chromatid exchange

**Carcinogenicity**

Carcinogenicity - Rat - Intratracheal

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Sodium dichromate dihydrate)

**Reproductive toxicity**

May cause congenital malformation in the fetus.  
Presumed human reproductive toxicant

May cause reproductive disorders.

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Inhalation - Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

No data available

**Additional Information**

RTECS: HX7750000

Ulceration, Liver injury may occur., Kidney injury may occur.

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**SECTION 12: Ecological information****12.1 Toxicity**Short-term toxicity to fish

LC50 (4 days) 13 - 100 mg/L

Long-term toxicity to fish

NOEC (1.129 years) 1 - 3.95 mg/L

NOEC (8 months) 10 - 200 µg/L

NOEC (60 days) 51 - 1 000 µg/L

NOEC (40 days) 3.5 - 35 mg/L

NOEC (30 days) 50 - 3 060 µg/L

Short-term toxicity to aquatic invertebrates

No data available

Long-term toxicity to aquatic invertebrates

NOEC (40 days) 110 - 3 500 µg/L

NOEC (25 days) 1.1 mg/L

NOEC (21 days) 18 - 1 100 µg/L

NOEC (14 days) 500 - 50 000 ng/L

NOEC (7 days) 4.7 - 350 µg/L

Toxicity to aquatic algae and cyanobacteria

No data available

Toxicity to aquatic plants other than algae

NOEC (8 days) 100 - 500 µg/L

NOEC (7 days) 110 µg/L

Toxicity to microorganisms

EC50 (24 h) 420 - 3 500 µg/L

EC50 (10 h) 110 µg/L

EC50 (50 min) 2.2 mg/L

EC50 (30 min) 21 - 200 mg/L

IC50 (3 h) 30 mg/L

Sediment toxicity

No data available

Toxicity to terrestrial macroorganisms except arthropods

EC50 (14 days) 792 mg/kg soil dw

LC50 (28 days) 146 mg/kg soil dw

Toxicity to terrestrial plants

NOEC (21 days) 350 - 11 000 µg/kg soil dw

EC50 (21 days) 1.8 - 31 mg/kg soil dw

Toxicity to soil microorganisms

NOEC (1.745 years) 182 mg/kg soil dw

NOEC (1.573 years) 400 mg/kg soil dw

NOEC (21 days) 100 mg/kg soil dw

NOEC (2 h) 26 mg/kg soil dw

NOEC (90 min) 130 mg/kg soil dw

Toxicity to birds

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

Very toxic to aquatic life with long lasting effects.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Unused product may be returned and reused, in addition to disposal. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging**

Dispose of as unused product.



## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
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.

#### Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.1, 1.2, 2.2, 3.1, 5.2, 5.3, 6.1, 6.3, 7.1, 7.2, 8.1, 8.2, 9.1, 10.5, 11.1, 12.1, 12.2, 12.3, 13.1, 14.7, 15.1, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

#### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Better Equipped and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.