Single-component Standard Solution for Ion chromatography.
Chromium (VI) (Cr^{6+}) 1000mg/l in water

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: A014
Issue date: 30/11/2015 Revision date: 08/01/2025 Supersedes version of: 29/03/2023 Version: 1.3

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

1.1. Product identifier

Product form : Mixture
Product name : Single-component Standard Solution for Ion chromatography. Chromium (VI) (Cr^{6+}) 1000mg/l in water
Product code : A014

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Reference material
Function or use category : Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.
20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.com
Web: www.spectracer.com

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital Msida MSD 2090 Msida	112 +356 2545 6508	
United Kingdom	National Poisons Information Service (NHS Direct)	http://www.npis.org	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Respiratory sensitisation, Category 1 H334
Skin sensitisation, Category 1 H317
Germ cell mutagenicity, Category 1B H340
Carcinogenicity, Category 1B H350
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Danger

Contains : ammonium dichromate

Hazard statements (CLP) : H317 - May cause an allergic skin reaction.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340 - May cause genetic defects.
H350 - May cause cancer.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - Wear respiratory protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	ammonium dichromate (7789-09-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	ammonium dichromate (7789-09-5)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	ammonium dichromate (7789-09-5)

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ammonium dichromate substance listed on REACH Candidate List substance listed on REACH Annex XIV substance with national workplace exposure limit(s) (AT, BE, CZ, DE, DK, FI, GB, GI, HR, HU, IE, LT, LU, MT, NL, SE, NO, CH); substance with a Community workplace exposure limit	CAS-No.: 7789-09-5 EC-No.: 232-143-1 EC Index-No.: 024-003-00-1	0.1 – 0.25	Ox. Sol. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360FD STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
ammonium dichromate	CAS-No.: 7789-09-5 EC-No.: 232-143-1 EC Index-No.: 024-003-00-1	(0.2 ≤ C ≤ 100) Skin Sens. 1; H317 (0.2 ≤ C ≤ 100) Resp. Sens. 1; H334 (5 ≤ C ≤ 100) STOT SE 3; H335

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapours/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up.

Packaging materials : Store always product in container of same material as original container.

Germany

Storage class (LGK, TRGS 510) : LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

Joint storage table :

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.2, LGK 7

Joint storage with restrictions permitted for : LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1B

Joint storage permitted for : LGK 2B, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

Switzerland

Storage class (LK) : LK 6.1 - Toxic materials

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

ammonium dichromate (7789-09-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Chromium (VI) compounds which are carcinogens (as chromium)
IOEL TWA	0.005 mg/m³ (BOEL) 0.01 mg/m³ (Limit value until 17 January 2025) 0.025 mg/m³ (Limit value for welding or plasma cutting processes or similar work processes that generate fume until 17 January 2025)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Chromium (VI) compounds which are carcinogens (as chromium)

ammonium dichromate (7789-09-5)	
BOEL TWA	0.005 mg/m³ 0.01 mg/m³ (Limit value until 17 January 2025) 0.025 mg/m³ (Limit value for welding or plasma cutting processes or similar work processes that generate fume until 17 January 2025)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
Austria - Occupational Exposure Limits	
Local name	Chrom(VI)-Verbindungen
TRK (OEL TWA)	0.01 mg/m³ (als CrO3 berechnet, E) 0.02 mg/m³ (als CrO3 berechnet, E gilt bis zum 17.01.2025) 0.05 mg/m³ für Schweiß- oder Plasmaschneidearbeiten oder ähnliche raucherzeugende Arbeitsverfahren (als CrO3 berechnet, E gilt bis zum 17.01.2025)
TRK (OEL STEL)	0.04 mg/m³ (als CrO3 berechnet, E) 0.08 mg/m³ (als CrO3 berechnet, E gilt bis zum 17.01.2025) 0.2 mg/m³ für Schweiß- oder Plasmaschneidearbeiten oder ähnliche raucherzeugende Arbeitsverfahren (als CrO3 berechnet, E gilt bis zum 17.01.2025)
Remark	Sh. Krebserzeugend: III A1 oder III A2
Regulatory reference	BGBl. II Nr. 156/2021
Austria - Biological limit values	
Local name	Chrom-VI-Verbindungen
BLV	9 µg/l Parameter: Chrom - Untersuchungsmaterial: Blut - Mitarbeiter/innen: gilt für Chrom (VI)-Einwirkung bei Nicht-Schweißrauch-Exponierten 12 µg/l Parameter: Chrom - Untersuchungsmaterial: Blut - Mitarbeiter/innen: gilt für Chrom (VI)-Einwirkung bei Schweißrauch-Exponierten
Remark	Eignung mit vorzeitiger Folgeuntersuchung: Bei Überschreiten der Grenzwerte für Chrom im Blut oder im Harn. Bei Vorliegen einer wesentlichen Beeinträchtigung der Lungenfunktion. Diese liegt vor, wenn nach mehrmaliger Messung der beste gemessene Wert den für den/die Untersuchte/n maßgebenden Sollwert um 20% unterschreitet bzw. den MEF50-Sollwert um 50% unterschreitet. Eine vorzeitige Folgeuntersuchung ist jedoch nicht erforderlich, wenn im Vergleich zu Vorbefunden der altersabhängige physiologische Abfall der 1 Sekundenkapazität (FEV1) von 40 ml/Jahr nicht überschritten wird oder aus der Beurteilung des Kurvenverlaufes der Forcierten Vitalkapazität (FVC) eine eingeschränkte Mitarbeit des Untersuchten/der Untersuchten ersichtlich ist. Der Zeitabstand zwischen den Untersuchungen beträgt bei Eignung: ein Jahr; bei Eignung mit vorzeitiger Folgeuntersuchung: sechs Monate.
Regulatory reference	Verordnung über die Gesundheitsüberwachung am Arbeitsplatz 2017 (VGÜ 2017)
Belgium - Occupational Exposure Limits	
Local name	Composés du chrome (VI) (en chrome) (non specifié ailleurs) # Chroom(VI)-verbindingen (als chroom) (elders niet vermeld)
OEL TWA	0.05 mg/m³ (Chrome VI, composés solubles dans l'eau en Cr (non classés ailleurs); Belgium; Time-weighted average exposure limit 8 h)
Remark	C: la mention "C" signifie que l'agent en question relève du champ d'application du titre 2 relatif aux agents cancérigènes, mutagènes et reprotoiques du livre VI du code de bien-être au travail. Composés du chrome (VI) qui sont cancérigènes au sens de l'article VI.2-2, § 1, point 1°. # C: de vermelding "C" betekent dat het betrokken agens valt onder het toepassingsgebied van titel 2 betreffende kankerverwekkende, mutagene en reprotoxische agentia van boek VI van de codex over het welzijn op het werk. Chroom(VI)-verbindingen die kankerverwekkend zijn in de zin van artikel VI.2-2, § 1, punt 1°.
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023

ammonium dichromate (7789-09-5)	
Croatia - Occupational Exposure Limits	
Local name	Kromovi (VI) spojevi koji su karcinogene tvari (kao Cr)
GVI (OEL TWA)	0.005 mg/m³ 0.01 mg/m³ do 17. 1. 2025 0.025 mg/m³ do 17. 1. 2025 za postupke zavarivanja ili rezanja plazmom ili slične takve postupke pri kojima nastaje dim
Remark	Direktiva: 2017/2398
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Croatia - Biological limit values	
Local name	Krom (VI) topljivi spojevi
BLV	10 µmol/mol creatinine Karakteristični pokazatelj: krom - Biološki uzorak: mokraća - Vrijeme uzorkovanja: jednokratni uzorak na kraju smjene 5 µg/g creatinine Karakteristični pokazatelj: krom - Biološki uzorak: mokraća - Vrijeme uzorkovanja: jednokratni uzorak na kraju smjene
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/2018)
Czech Republic - Occupational Exposure Limits	
Local name	Chromu (VI) sloučeniny, jako Cr
PEL (OEL TWA)	0.005 mg/m³ (V - vdechovatelná frakce aerosolu) (od 17. 1. 2025) 0.01 mg/m³ 0.025 mg/m³ (pro postupy svařování nebo plazmového řezání nebo podobné pracovní postupy, při kterých vzniká dým)
NPK-P (OEL C)	0.01 mg/m³ (V - vdechovatelná frakce aerosolu) (od 17. 1. 2025) 0.02 mg/m³ 0.05 mg/m³ (pro postupy svařování nebo plazmového řezání nebo podobné pracovní postupy, při kterých vzniká dým)
Remark	B - u látky je zaveden biologický expoziční test (BET) v moči nebo krvi, I - dráždí sliznice (oči, dýchací cesty) resp. kůži, K - karcinogen kategorie 1A a 1B (s větou H350, H350i), M - mutagen v zárodečných buňkách kategorie 1A a 1B (s větou H340), P - u látky nelze vyloučit závažné pozdní účinky (s větou H372, H373), S - látka má senzibilizující účinek (s větou H317, H334), T - toxická pro reprodukci kategorie 1A a 1B (s větou H360 včetně příslušných kódů).
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Czech Republic - Biological limit values	
Local name	Chrom (VI) sloučeniny
BLV	0.03 mg/g creatinine Ukazatel: Celkový chrom - Biologicky vzorek: moči - Doba odběru: konec směny na konci pracovního týdne 0.065 µmol/mmol Creatinine Ukazatel: Celkový chrom - Biologicky vzorek: moči - Doba odběru: konec směny na konci pracovního týdne
Regulatory reference	Vyhláška č. 107/2013 Sb. (kterou se mění vyhláška č. 432/2003 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Chrom, pulver og opløselige chromi- og chromosalte
OEL TWA	0.5 mg/m³ beregnet som Cr
Remark	E (betyder, at stoffet har en EF-grænseværdi)
Regulatory reference	BEK nr 291 af 19/03/2024

ammonium dichromate (7789-09-5)	
Finland - Occupational Exposure Limits	
Local name	Ammoniumdikromaatti
HTP (OEL TWA)	0.005 mg/m³ Cr
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
Finland - Biological limit values	
Local name	Kromi-(VI) ja sen yhdisteet
BLV	0.2 µmol/l Parametri: Virtsan kromi - Näytteenottoajankohta: Työvaiheen tai työvuoron päätyttyä työviikon tai altistumisjakson loputtua
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
Germany - Occupational Exposure Limits (TRGS 910)	
Local name	Chrom VI-Verbindungen
Tolerance concentration (Weight conc.)	1 µg/m³ (E)
Tolerance concentration excess factor	8
Remark	(4) Die Konzentrationen beziehen sich auf den Elementgehalt des entsprechenden Metalls.; (5) Beurteilungsmaßstab, risikobasiert; Siehe TRGS 561
Regulatory reference	TRGS 910
Gibraltar - Occupational Exposure Limits	
Local name	Chromium (VI) compounds which are carcinogens (as chromium)
OEL TWA	0.005 mg/m³
Regulatory reference	Factories (Control of Carcinogens and mutagens at Work) Regulations 2003 (LN. 2020/47)
Hungary - Biological Exposure Indices	
Local name	Króm
BEI	0.01 mg/g creatinine Biológiai expozíciós (hatás) mutató: króm - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén) 0.022 µmol/mmol Creatinine Biológiai expozíciós (hatás) mutató: króm - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Chromium (VI) compounds (as Cr)
OEL TWA	0.005 mg/m³ Limit value from 17 Jan 2025 0.01 mg/m³ Limit value until 17 January 2025 0.025 mg/m³ Limit value for welding or plasma cutting processes or similar work processes that generate fume until 17 January 2025
Remark	BOELV (Binding Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Ireland - Biological limit values	
Local name	Chromium VI and water soluble compounds
BMGV	25 µg/l Parameter: total chromium - Medium: urine - Sampling time: End of shift at end of workweek - Notations: B (Background) 10 µg/l Parameter: total chromium - Medium: urine - Sampling time: Increase during shift

ammonium dichromate (7789-09-5)	
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
Lithuania - Occupational Exposure Limits	
Local name	Chromo (VI) junginiai
IPRV (OEL TWA)	0.005 mg/m³ (kaip Cr)
TPRV (OEL STEL)	0.015 mg/m³ (kaip Cr)
Remark	J (jautrinantis poveikis); K (kancerogeninis poveikis); M (mutageninis poveikis); R (reprodukcijai toksiškas poveikis)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Composés du chrome (VI) (en chrome)
OEL TWA	0.005 mg/m³ 0.01 mg/m³ Valeur limite jusqu'au 17 janvier 2025 0.025 mg/m³ Valeur limite pour le soudage ou le coupage au jet de plasma ou des procédés similaires qui génèrent des fumées jusqu'au 17 janvier 2025
Remark	Composés du chrome (VI) qui sont cancérigènes au sens de l'article 2, point a) i) («agent cancérigène»: une substance ou un mélange qui répond aux critères de classification dans la catégorie IA ou IB des cancérigènes, tels que fixés à l'annexe I du règlement (CE) n° 1272/2008 du Parlement européen et du Conseil du 16 décembre 2008 relatif à la classification, à l'étiquetage et à l'emballage des substances et des mélanges, modifiant et abrogeant les directives 67/548/CEE et 1999/45/CE et modifiant le règlement (CE) n° 1907/2006, dénommé ci-après «règlement CLP»)
Regulatory reference	Mémorial A Nº 223 de 2021 concernant la protection des salariés contre les risques liés à l'exposition à des agents cancérigènes ou mutagènes au travail
Malta - Occupational Exposure Limits	
Local name	Chromium (VI) compounds # Komposti tal-Kromju (VI)
OEL TWA	0.005 mg/m³ 0.01 mg/m³ (until 17 January 2025 # sas-17 ta' Jannar 2025) 0.025 mg/m³ (for welding or plasma cutting processes or similar workprocesses that generate fumeuntil 17 January 2025 # għal proċessi għaliwweldjar jew qtugħ bil-plasma jew proċessi ta'xogħol simili li jiġġeneraw dħaħen sas-17ta' Jannar 2025)
Remark	which are carcinogens within the meaning of "carcinogen" (a substance or mixture which meets the criteria forclassification as a category 1A or 1B carcinogen setout in Annex I to Regulation (EC) No 1272/2008 of the European Parliament and of the Council) (as chromium) # li huma karċinoġeni, fis-sens tat-tifsira "carcinogen" (a substance or mixture which meets the criteria forclassification as a category 1A or 1B carcinogen setout in Annex I to Regulation (EC) No 1272/2008 of the European Parliament and of the Council) (bħala kromju)
Regulatory reference	S.L. 424.22 - Exposure to Carcinogens, Mutagens or Reprotoxic Substances at Work Regulations (L.N. 102 of 2024) # L.S. 424.22 - Regolamenti dwar Espożizzjoni għall-Carcinogens, Mutagens jew Reprotoxic Substances fuq il-Post tax-Xogħol (A.L. 102 tal-2024)
Netherlands - Occupational Exposure Limits	
Local name	Chroom
TGG-8u (OEL TWA)	0.025 mg/m³ (Chroom(VI)-oplosbare verbindingen (als Cr); Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value; als Cr)
TGG-15min (OEL STEL)	0.05 mg/m³ (Chroom(VI)-oplosbare verbindingen (als Cr); Netherlands; Short time value; Public occupational exposure limit value; als Cr)

ammonium dichromate (7789-09-5)	
Regulatory reference	Arbeidsomstandighedenregeling 2024
Sweden - Occupational Exposure Limits	
Local name	Krom (VI)-föreningar (som Cr)
NGV (OEL TWA)	0.005 mg/m³ inhalerbar fraktion
KGV (OEL STEL)	0.015 mg/m³ inhalerbar fraktion
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); S (Ämnet är sensibiliserande. Sensibiliserande ämnen kan ge allergi eller annan överkänslighet. Överkänslighetsbesvären drabbar främst huden eller andningsorganen. Överkänslighet innebär att man reagerar vid kontakt med ämnen som normalt inte ger besvär. Allergi är en undergrupp av överkänslighet som orsakas av reaktioner i kroppens immunsystem. Särskilt låga gränsvärden har fastställts för ämnen med mer uttalat luftvägssensibiliserande egenskaper. Några ämnen med starkt sensibiliserande egenskaper får endast hanteras efter tillstånd från Arbetsmiljöverket, se föreskrifterna om kemiska arbetsmiljörisker. Dessa ämnen har inga gränsvärden men i vissa fall riktvärden); 3 (Med inhalerbar fraktion menas den mängd partiklar, av totalmängden partiklar i luften, som man inandas genom näsa och mun)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Chromium (VI) compounds
WEL TWA (OEL TWA)	0.01 mg/m³ (as Cr) 0.025 mg/m³ (process generated, as Cr)
Remark	Carc (Capable of causing cancer and/or heritable genetic damage), Sen (Capable of causing occupational asthma). 'Process generated' refers to exposures to Chromium (VI) Compounds generated as a result of a work process, such as fumes from welding.
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Chromium VI
BMGV	10 µmol/mol creatinine Parameter: chromium - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Norway - Occupational Exposure Limits	
Local name	Kromsyre og Kromater (beregnet som Cr(VI))
Grenseverdi (OEL TWA)	0.001 mg/m³
Remark	A: Kjemikalier som skal betraktes som at de fremkaller allergi eller annen overfølsomhet i øynene eller luftveier, eller som skal betraktes som at de fremkaller allergi ved hudkontakt; K: Kjemikalier som skal betraktes som kreftfremkallende; G: EU har fastsatt en bindende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2024-04-05-581
Switzerland - BAT	
Local name	Chrome, composés hexavalents / Chrom(VI)-Verbindungen
BAT	11 µg/l (212 nmol/l; Paramètre biologique: Chrome; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (212 nmol/l; Biologischer Parameter: Chrom; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.)

ammonium dichromate (7789-09-5)	
Remark	Influence de l'environnement. / Umwelteinflüsse.
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte
USA - ACGIH - Occupational Exposure Limits	
Local name	Hexavalent chromium coumpounds, as Cr(VI)
ACGIH OEL TWA	0.05 mg/m³ (Chromium, water-soluble inorgan. Cr VI compounds; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH OEL STEL	0.0005 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: Lung & sinonasal cancer; resp tract irr; asthma. Notations: A1 (Confirmed Human Carcinogen) Water-soluble compounds. Notations: Skin; DSEN; RSEN
Regulatory reference	ACGIH 2024

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Not available
Odour	:	Not available

Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Solubility	:	Miscible with water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	1.01
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

ammonium dichromate (7789-09-5)	
LD50 oral rat	55 mg/kg
LD50 dermal rabbit	1860 mg/kg

Skin corrosion/irritation : Not classified

ammonium dichromate (7789-09-5)	
pH	3.5 (10 %)

Serious eye damage/irritation : Not classified

ammonium dichromate (7789-09-5)	
pH	3.5 (10 %)

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.

ammonium dichromate (7789-09-5)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

ammonium dichromate (7789-09-5)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

ammonium dichromate (7789-09-5)	
EC50 - Crustacea [1]	0.019 mg/l Daphnia magna (Water flea)

12.2. Persistence and degradability

Single-component Standard Solution for Ion chromatography. Chromium (VI) (Cr^{6+}) 1000mg/l in water	
Persistence and degradability	Rapidly degradable

ammonium dichromate (7789-09-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

ammonium dichromate (7789-09-5)	
Bioaccumulative potential	bioaccumulable.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	ammonium dichromate (7789-09-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	ammonium dichromate (7789-09-5)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

European List of Waste (LoW, EC 2000/532) : 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not dangerous goods in terms of transport regulations				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	Single-component Standard Solution for Ion chromatography. Chromium (VI) (Cr^{6+}) 1000mg/l in water	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
47.	ammonium dichromate	Chromium VI compounds
65.	ammonium dichromate	Inorganic ammonium salts

REACH Annex XIV (Authorisation List)

Contains substance(s) listed on REACH Annex XIV: Ammonium dichromate (EC 232-143-1, CAS 7789-09-5)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: Ammonium dichromate (EC 232-143-1, CAS 7789-09-5)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Austria

Toxic Substances Ordinance 2000 : Is not subject to the Toxic Substances Ordinance 2000.

France

Occupational diseases	
Code	Description
RG 10	Ulcerations and dermatitis caused by chromic acid, alkaline chromates and dichromates, zinc chromate and chromium sulphate
RG 10 BIS	Respiratory disorders caused by chromic acid, alkaline chromates and dichromates
RG 10 TER	Cancerous conditions caused by chromic acid and alkaline or alkaline earth chromates and dichromates and by zinc chromate

Germany

VOC ordinance (ChemVOCFarbV) :

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category : Z(2) - biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/reprotoxicity/bioacumulative potential or toxicity)

SZW-lijst van kankerverwekkende stoffen : ammonium dichromate is listed

SZW-lijst van mutagene stoffen : ammonium dichromate is listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : ammonium dichromate is listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : ammonium dichromate is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : ammonium dichromate is listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

Poland

Polish National Regulations	:	Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225). Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797). The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended). Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923). Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154). Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended). The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488) Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended). Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141). ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

Switzerland

Chemicals Ordinance (ChemO, SR 813.11)	:	Group 1

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
4.1	First-aid measures for first aider	**Added**
4.2	Symptoms/effects after ingestion	**Added**
4.2	Symptoms/effects after eye contact	**Added**
5.1	Unsuitable extinguishing media	**Added**
5.2	Fire hazard	**Added**
5.2	Explosion hazard	**Added**
5.3	Firefighting instructions	**Added**
6.1	Emergency procedures	**Added**
6.1	Protective equipment	**Added**
6.1	General measures	**Added**
6.3	For containment	**Added**
7.1	Additional hazards when processed	**Added**

Indication of changes		
Section	**Changed item**	**Comments**
7.2	Technical measures	**Added**
7.2	Packaging materials	**Added**
7.2	Storage conditions	**Modified**
13.1	Sewage disposal recommendations	**Added**
13.1	Additional information	**Added**
13.1	Regional waste regulation	**Added**
13.1	Product/Packaging disposal recommendations	**Modified**
15.1	REACH Annex XVII	**Modified**
16	Abbreviations and acronyms	**Modified**

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)

Abbreviations and acronyms:	
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Muta. 1B	Germ cell mutagenicity, Category 1B
Ox. Sol. 2	Oxidising Solids, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Full text of H- and EUH-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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 1B	H340	Calculation method
Carc. 1B	H350	Calculation method

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.