

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 19-Apr-2012

Revision Date 09-Sep-2024

Revision Number 4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description:	Pyridinium dichromate
Cat No. :	L15132
Synonyms	PDC
Index No	024-017-00-8
CAS No	20039-37-6
EC No	243-478-8
Molecular Formula	C10 H12 Cr2 N2 O7
REACH registration number	-

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

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

1.3. Details of the supplier of the safety data sheet

Com	panv

Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608

E-mail address

begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Pyridinium dichromate

Flammable solids Oxidizing solids

Health hazards

Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Carcinogenicity

Environmental hazards

Acute aquatic toxicity Chronic aquatic toxicity Revision Date 09-Sep-2024

Category 1 (H228) Category 2 (H272)

Category 1 B (H314) Category 1 (H318) Category 1B (H350i)

Category 1 (H400) Category 1 (H410)

Full text of Hazard Statements: see section 16



Signal Word

Danger

Hazard Statements

- H272 May intensify fire; oxidizer
- H228 Flammable solid
- H350i May cause cancer by inhalation
- H314 Causes severe skin burns and eye damage
- H410 Very toxic to aquatic life with long lasting effects

Precautionary Statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 Immediately call a POISON CENTER or doctor/physician

P273 - Avoid release to the environment

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P220 Keep away from clothing and other combustible materials

Additional EU labelling

Restricted to professional users

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	GHS Classification - According to

Pyridinium dichromate

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-

				GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Chromic acid (H2Cr2O7), compound with pyridine (1:2)	20039-37-6	EEC No. 243-478-8	>95	Flam. Sol. 1 (H228) Ox. Sol. 2 (H272) Carc. 1B (H350i) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

REACH registration number

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.	
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.	
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.	
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.	
Inhalation	Remove to fresh air. 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. If not breathing, give artificial respiration.	
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.	
4.2. Most important symptoms and effects, both acute and delayed		
	Causes burns by all exposure routes. 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	

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

Notes to Physician

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

Pyridinium dichromate

No information available.

5.2. Special hazards arising from the substance or mixture

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. Flammable.

Hazardous Combustion Products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO₂), Chromium oxide, Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid dust formation.

6.2. Environmental precautions

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.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Flammables area. Corrosives area.

Technical Rules for Hazardous Substances (TRGS) 510 Class 4.1B Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

Component	The United Kingdom	European Union	Ireland
Chromic acid (H2Cr2O7), compound with pyridine (1:2)	STEL: 0.03 mg/m ³ 15 min		
	STEL: 0.065 mg/m ³ 15 min		
	TWA: 0.01 mg/m ³ 8 hr		
	TWA: 0.025 mg/m ³ 8 hr		
	Carc. as Cr		
	Resp. Sens.		

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

No information available

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment Eye Protection

Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber Neoprene PVC	Breakthrough time See manufacturers recommendations	Glove thickness -	EU standard EN 374	Glove comments (minimum requirement)
Skin and body protect	ction Long sle	eved clothing.		

Pyridinium dichromate

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
Large scale/emergency use	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143
Small scale/Laboratory use	Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Powder Solid	
Appearance Odor Odor Threshold Melting Point/Range Softening Point Boiling Point/Range Flammability (liquid) Flammability (solid,gas) Explosion Limits	Amber No information available No data available 152 - 153 °C / 305.6 - 307.4 °F No data available No information available Not applicable No information available No data available	Solid
Flash Point Autoignition Temperature Decomposition Temperature pH Viscosity Water Solubility Solubility in other solvents	No information available Not applicable No data available No information available Not applicable 943 g/L at 20°C No information available	Method - No information available
Partition Coefficient (n-octanol/wate Component Chromic acid (H2Cr2O7), compound with pyridine (1:2) Vapor Pressure Density / Specific Gravity Bulk Density Vapor Density Particle characteristics		Solid

9.2. Other information

Molecular Formula Molecular Weight Flammable solids

Oxidizing Properties

Evaporation Rate

10.1. Reactivity

C10 H12 Cr2 N2 O7 376.2 Burning rate or burning time = > 2.2 mm/s or < 45 secs Wetted zone passed - Yes Oxidizer Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

	Yes
10.2. Chemical stability	Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic.
10.3. Possibility of hazardous reaction	ons
Hazardous Polymerization Hazardous Reactions	Hazardous polymerization does not occur. None under normal processing.
10.4. Conditions to avoid	Incompatible products. Excess heat. Combustible material. Exposure to moist air or water.
10.5. Incompatible materials	Strong oxidizing agents. Organic materials. Finely powdered metals. Strong reducing agents. Combustible material.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO₂). Chromium oxide. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information	No acute toxicity information is available for this product
(a) acute toxicity; Oral Dermal Inhalation	Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met
(b) skin corrosion/irritation;	Category 1 B
(c) serious eye damage/irritation;	Category 1
(d) respiratory or skin sensitization Respiratory Skin	Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met May cause sensitization by skin contact

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(e) germ cell mutagenicity;	Based on available data, the classification crit Mutagenic	eria are not met						
(f) carcinogenicity;	Category 1B							
	There are no known carcinogenic chemicals in	n this product						
(g) reproductive toxicity;	Based on available data, the classification criteria are not met							
(h) STOT-single exposure;	Based on available data, the classification crit	Based on available data, the classification criteria are not met						
(i) STOT-repeated exposure;	Based on available data, the classification crit	eria are not met						
Target Organs	None known.							
(j) aspiration hazard;	Not applicable Solid							
Other Adverse Effects	The toxicological properties have not been ful	ly investigated.						
Symptoms / effects,both acute and delayed	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.							
11.2. Information on other hazards								
Endocrine Disrupting Properties	Assess endocrine disrupting properties for hur known or suspected endocrine disruptors.	man health. This product does not contain any						
SE	CTION 12: ECOLOGICAL INFOR	MATION						
<u>12.1. Toxicity</u> Ecotoxicity effects	Very toxic to aquatic organisms, may cause lo environment. The product contains following s environment. May cause long-term adverse ef material to contaminate ground water system.	ubstances which are hazardous for the fects in the environment. Do not allow						
Persistence Degradation in sewage treatment plant	Not readily biodegradable Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary May persist, based on information available. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.							
12.3. Bioaccumulative potential	May have some potential to bioaccumulate							
Component Chromic acid (H2Cr2O7), compound with	-3.7	Bioconcentration factor (BCF) No data available						
pyridine (1:2)								

12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the

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	environment due to its water solubility. Highly mobile in soils				
<u>12.5. Results of PBT and vPvB</u> assessment	No data available for assessment.				
<u>12.6. Endocrine disrupting</u> <u>properties</u> Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors				
<u>12.7. Other adverse effects</u> Persistent Organic Pollutant Ozone Depletion Potential	This product does not contain any known or suspected substance This product does not contain any known or suspected substance				
SECTION 13: DISPOSAL CONSIDERATIONS					
13.1. Waste treatment methods					
Waste from Residues/Unused Products	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.				
Contaminated Packaging	Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.				
European Waste Catalogue (EWC)	According to the European Waste Catalog, Waste Codes are not product specific, but application specific.				

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

Pyridinium dichromate

<u>14.1. UN number</u>	UN3085
<u>14.2. UN proper shipping name</u>	Oxidizing solid, corrosive, n.o.s.
Technical Shipping Name	Chromic acid (H2Cr2O7), compound with pyridine (1:2)
<u>14.3. Transport hazard class(es)</u>	5.1
Subsidiary Hazard Class	8
<u>14.4. Packing group</u>	II
ADR	
<u>14.1. UN number</u>	UN3085
<u>14.2. UN proper shipping name</u>	Oxidizing solid, corrosive, n.o.s.
Technical Shipping Name	Chromic acid (H2Cr2O7), compound with pyridine (1:2)
<u>14.3. Transport hazard class(es)</u>	5.1
Subsidiary Hazard Class	8
<u>14.4. Packing group</u>	II

<u>IATA</u>

<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> Technical Shipping Name <u>14.3. Transport hazard class(es)</u> Subsidiary Hazard Class <u>14.4. Packing group</u>	UN3085 Oxidizing solid, corrosive, n.o.s. Chromic acid (H2Cr2O7), compound with pyridine (1:2) 5.1 8 II
14.5. Environmental hazards	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
14.6. Special precautions for user	No special precautions required.
14.7. Maritime transport in bulk according to IMO instruments	Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Chromic acid (H2Cr2O7),	20039-37-6	243-478-8	-	-	Х	Х	KE-05967	-	-
compound with pyridine (1:2)									

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Chromic acid (H2Cr2O7), compound with pyridine (1:2)	20039-37-6	Х	ACTIVE	х	-	-	Х	-

Legend: X - Listed '-' - Not Listed

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

Authorisation/Restrictions according to EU REACH

Component	CAS No	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)
Chromic acid (H2Cr2O7), compound with pyridine (1:2)	20039-37-6	-	Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 47. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-

REACH links

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

Seveso III Directive (2012/18/EC)

Pyridinium dichromate

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
Chromic acid (H2Cr2O7), compound with pyridine (1:2)	20039-37-6	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

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

H228 - Flammable solid

- H272 May intensify fire; oxidizer
- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage
- H350i May cause cancer by inhalation
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects

Legend

CAS - Chemical Abstracts Service	TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances PICCS - Philippines Inventory of Chemicals and Chemical Substances IECSC - Chinese Inventory of Existing Chemical Substances KECL - Korean Existing and Evaluated Chemical Substances	

WEL - Workplace Exposure Limit ACGIH - American Conference of Governmental Industrial Hygienists DNEL - Derived No Effect Level RPE - Respiratory Protective Equipment TWA - Time Weighted Average IARC - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC) LD50 - Lethal Dose 50%

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 Safety Data Sheet

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

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ALFAAL15132

SAFETY DATA SHEET

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association MARPOL - International Convention for the Prevention of Pollution from Ships ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

LC50 - Lethal Concentration 50% NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

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ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code **OECD** - Organisation for Economic Co-operation and Development BCF - Bioconcentration factor Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice Chemical incident response training.

Prepared By	Health, Safety and Environmental Department
Creation Date	19-Apr-2012
Revision Date	09-Sep-2024
Revision Summary	New emergency telephone response service provider.

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