SAFETY DATA SHEET

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

Revision Date 17-Mar-2024 **Revision Number** 3

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

1.1. Product identifier

Product Description: **Duplex 2209 wire cloth**
Cat No. : **46504**

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

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

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

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Skin Sensitization	Category 1 (H317)
Carcinogenicity	Category 2 (H351)
Specific target organ toxicity - (repeated exposure)	Category 2 (H373)

Environmental hazards
Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements

Signal Word **Warning**

Hazard Statements
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P201 - Obtain special instructions before use
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308 + P313 - IF exposed or concerned: Get medical advice/attention

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Iron	7439-89-6	EEC No. 231-096-4	60.22	-
Chromium	7440-47-3	EEC No. 231-157-5	23.5	-
Nickel	7440-02-0	EEC No. 231-111-4	9.5	Skin Sens. 1 (H317) Carc. 2 (H351) STOT RE 1 (H372)
Molybdenum	7439-98-7	EEC No. 231-107-2	3.5	-
Manganese	7439-96-5	EEC No. 231-105-1	2.0	-
Silicon	7440-21-3	EEC No. 231-130-8	0.9	-
Copper	7440-50-8	EEC No. 231-159-6	0.3	-
Phosphorus	7723-14-0	EEC No. 231-768-7	0.03	Flam. Sol. 1 (H228) Aquatic Chronic 3 (H412)
Activated charcoal	7440-44-0	EEC No. 231-153-3	0.03	-
Sulfur	7704-34-9	EEC No. 231-722-6	0.02	Skin Irrit. 2 (H315)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

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

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Self-Protection of the First Aider No special precautions required.

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

May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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
approved class D extinguishers. Do not use water or foam.

Extinguishing media which must not be used for safety reasons
Water may be ineffective.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Metal oxides.

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. No special precautions required.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Do not allow material to contaminate ground water system.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. Pick up and transfer to properly labelled containers.

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

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry place. Keep away from acids.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany) Class 13

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE -** 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Chromium	STEL: 1.5 mg/m³ 15 min TWA: 0.5 mg/m³ 8 hr	TWA: 2 mg/m³ (8hr)	TWA: 2 mg/m³ 8 hr. STEL: 6 mg/m³ 15 min
Nickel	STEL: 1.5 mg/m³ 15 min TWA: 0.5 mg/m³ 8 hr Skin		TWA: 0.5 mg/m³ 8 hr. STEL: 1.5 mg/m³ 15 min
Molybdenum	STEL: 20 mg/m³ 15 min TWA: 10 mg/m³ 8 hr		
Manganese	STEL: 0.6 mg/m³ 15 min STEL: 0.15 mg/m³ 15 min TWA: 0.2 mg/m³ 8 hr	TWA: 0.2 mg/m³ (8h) TWA: 0.05 mg/m³ (8h)	TWA: 0.2 mg/m³ 8 hr. Mn fume; inhalable fraction TWA: 0.2 mg/m³ 8 hr.

	TWA: 0.05 mg/m³ 8 hr		inhalable fraction TWA: 0.05 mg/m³ 8 hr. respirable fraction TWA: 0.02 mg/m³ 8 hr. Mn fume; respirable fraction STEL: 0.15 mg/m³ 15 min STEL: 0.6 mg/m³ 15 min STEL: 3 mg/m³ 15 min
Silicon	STEL: 30 ppm 15 min STEL: 12 mg/m³ 15 min TWA: 10 mg/m³ 8 hr TWA: 4 mg/m³ 8 hr		TWA: 4 mg/m³ 8 hr. respirable dust TWA: 10 mg/m³ 8 hr. Si total inhalable dust STEL: 30 mg/m³ 15 min STEL: 12 mg/m³ 15 min
Copper	STEL: 0.6 mg/m³ 15 min STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr TWA: 0.2 mg/m³ 8 hr		TWA: 0.2 mg/m³ 8 hr. Cu fume TWA: 1 mg/m³ 8 hr. Cu dusts and mists STEL: 2 mg/m³ 15 min STEL: 0.6 mg/m³ 15 min

Biological limit values
List source(s):

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)
See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Nickel 7440-02-0 (9.5)			DNEL = 0.035mg/cm2	
Copper 7440-50-8 (0.3)		DNEL = 273mg/kg bw/day		DNEL = 137mg/kg bw/day
Phosphorus 7723-14-0 (0.03)				DNEL = 30mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Iron 7439-89-6 (60.22)			DNEL = 3mg/m³	
Chromium 7440-47-3 (23.5)			DNEL = 0.5mg/m³	
Nickel 7440-02-0 (9.5)	DNEL = 11.9mg/m³		DNEL = 0.05mg/m³	DNEL = 0.05mg/m³
Molybdenum 7439-98-7 (3.5)				DNEL = 11.7mg/m³
Phosphorus 7723-14-0 (0.03)				DNEL = 4mg/m³
Activated charcoal 7440-44-0 (0.03)			DNEL = 1.84mg/m³	

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Chromium 7440-47-3 (23.5)	PNEC = 6.5µg/L	PNEC = 205.7mg/kg sediment dw			PNEC = 21.1mg/kg soil dw
Nickel 7440-02-0 (9.5)	PNEC = 7.1µg/L	PNEC = 109mg/kg sediment dw		PNEC = 0.33mg/L	PNEC = 29.9mg/kg soil dw
Molybdenum	PNEC = 12.7mg/L	PNEC =		PNEC = 21.7mg/L	PNEC = 9.9mg/kg

7439-98-7 (3.5)		22600mg/kg sediment dw			soil dw
Copper 7440-50-8 (0.3)	PNEC = 7.8µg/L	PNEC = 87mg/kg sediment dw		PNEC = 230µg/L	PNEC = 65mg/kg soil dw
Phosphorus 7723-14-0 (0.03)	PNEC = 10.5µg/L	PNEC = 100mg/kg sediment dw	PNEC = 105µg/L	PNEC = 10mg/L	PNEC = 12.5mg/kg soil dw
Activated charcoal 7440-44-0 (0.03)					PNEC = 10mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Nickel 7440-02-0 (9.5)	PNEC = 8.6µg/L	PNEC = 109mg/kg sediment dw		PNEC = 0.12mg/kg food	
Molybdenum 7439-98-7 (3.5)	PNEC = 2.28mg/L	PNEC = 2368mg/kg sediment dw			
Copper 7440-50-8 (0.3)	PNEC = 5.2µg/L	PNEC = 676mg/kg sediment dw			
Phosphorus 7723-14-0 (0.03)	PNEC = 1.05µg/L	PNEC = 10mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures
None under normal use conditions.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection No special protective equipment required

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

Respiratory Protection No protective equipment is needed under normal use conditions. No special protective equipment required.

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: Particle filter

Small scale/Laboratory use Maintain adequate ventilation No personal respiratory protective equipment normally required

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 Solid

Appearance Grey - Silver
Odor Odorless
Odor Threshold No data available

Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Flash Point	No information available	**Method -** No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble in water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Vapor Pressure	23 hPa @ 20 °C	
Density / Specific Gravity	No data available	
Bulk Density	No data available	
Vapor Density	Not applicable	Solid
Particle characteristics	No data available	

9.2. Other information

Evaporation Rate Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

Oral	Based on available data, the classification criteria are not met
Dermal	Based on available data, the classification criteria are not met
Inhalation	Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iron	7500 mg/kg (Rat)	-	-
Nickel	LD50 > 9000 mg/kg (Rat)	-	LC50 > 10.2 mg/L (Rat) 1 h
Molybdenum	-	LD50 > 2000 mg/kg (Rat)	LC50 > 5.84 mg/L (Rat) 4 h
Manganese	LD50 = 9 g/kg (Rat)	-	LC50 > 5.14 mg/L (Rat) 4 h
Silicon	LD50 = 3160 mg/kg (Rat)	-	-
Copper	-	-	LC50 > 5.11 mg/L (Rat) 4 h
Phosphorus	>15000 mg/kg (Rat Female)	-	LC50 = 4.3 mg/L (Rat) 1 h
Activated charcoal	LD50 > 10000 mg/kg (Rat)	-	-
Sulfur	LD50 > 3000 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	LC50 > 9.23 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available

Skin Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; Category 2

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

Component	EU	UK	Germany	IARC
Nickel			Cat. 1	Group 2B

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 2

Target Organs Lungs.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects,both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Component	Freshwater Fish	Water Flea	Freshwater Algae
Nickel	LC50: > 100 mg/L, 96h (Brachydanio rerio) LC50: = 1.3 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 10.4 mg/L, 96h static (Cyprinus carpio)	EC50 = 510 µg/L 96h	EC50 = 0.1 mg/L 72h EC50 = 0.18 mg/L 72h
Manganese	LC50: > 3.6 mg/L, 96h semi-static (Oncorhynchus mykiss)		
Copper	LC50: = 1.25 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.3 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.112 mg/L, 96h flow-through (Poecilia reticulata) LC50: = 0.052 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.0068 - 0.0156 mg/L, 96h (Pimephales promelas) LC50: < 0.3 mg/L, 96h static (Pimephales promelas) LC50: = 0.2 mg/L, 96h flow-through (Pimephales promelas)	EC50: = 0.03 mg/L, 48h Static (Daphnia magna)	EC50: 0.031 - 0.054 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 0.0426 - 0.0535 mg/L, 72h static (Pseudokirchneriella subcapitata)
Phosphorus	LC50: 33.2 mg/L/96h (Danio rerio)	EC50: 10.5 mg/L/48h	
Sulfur	Oncorhynchus mykiss:LC50>180mg/L/96h	EC50: >5g/L/48h	

12.2. Persistence and degradability Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary

Persistence Insoluble in water, May persist.

Degradability Not relevant for inorganic substances.

Degradation in sewage treatment plant 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; Product has a high potential to bioconcentrate

Component	log Pow	Bioconcentration factor (BCF)
Chromium		1.03 - 1.22
Phosphorus		<200 dimensionless

12.4. Mobility in soil Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential 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.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

ADR Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

IATA Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

14.5. Environmental hazards No hazards identified

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
Iron	7439-89-6	231-096-4	-	-	X	X	KE-21059	X	-
Chromium	7440-47-3	231-157-5	-	-	X	X	KE-05970	X	-
Nickel	7440-02-0	231-111-4	-	-	X	X	KE-25818	X	-
Molybdenum	7439-98-7	231-107-2	-	-	X	X	KE-25427	X	-
Manganese	7439-96-5	231-105-1	-	-	X	X	KE-22999	X	-
Silicon	7440-21-3	231-130-8	-	-	X	X	KE-31029	X	-
Copper	7440-50-8	231-159-6	-	-	X	X	KE-08896	X	-
Phosphorus	7723-14-0	231-768-7	-	-	X	X	KE-28713	X	-
Activated charcoal	7440-44-0	231-153-3	-	-	X	X	KE-04671	X	-
Sulfur	7704-34-9	231-722-6	-	-	X	X	KE-32688	X	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Iron	7439-89-6	X	ACTIVE	X	-	X	X	X
Chromium	7440-47-3	X	ACTIVE	X	-	X	X	X
Nickel	7440-02-0	X	ACTIVE	X	-	X	X	X
Molybdenum	7439-98-7	X	ACTIVE	X	-	X	X	X
Manganese	7439-96-5	X	ACTIVE	X	-	X	X	X
Silicon	7440-21-3	X	ACTIVE	X	-	X	X	X
Copper	7440-50-8	X	ACTIVE	X	-	X	X	X
Phosphorus	7723-14-0	X	ACTIVE	X	-	X	X	X
Activated charcoal	7440-44-0	X	ACTIVE	X	-	X	X	X
Sulfur	7704-34-9	X	ACTIVE	X	-	X	X	X

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)
Iron	7439-89-6	-	-	-
Chromium	7440-47-3	-	Use restricted. See item 75. (see link for restriction details)	-
Nickel	7440-02-0	-	Use restricted. See item 27. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-
Molybdenum	7439-98-7	-	-	-
Manganese	7439-96-5	-	-	-
Silicon	7440-21-3	-	-	-
Copper	7440-50-8	-	Use restricted. See item 75. (see link for restriction details)	-
Phosphorus	7723-14-0	-	Use restricted. See item 75. (see link for restriction details)	-
Activated charcoal	7440-44-0	-	Use restricted. See item 75. (see link for restriction	-

			details)	
Sulfur	7704-34-9	-	Use restricted. See item 75. (see link for restriction details)	-

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

Seveso III Directive (2012/18/EC)

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
Iron	7439-89-6	Not applicable	Not applicable
Chromium	7440-47-3	Not applicable	Not applicable
Nickel	7440-02-0	Not applicable	Not applicable
Molybdenum	7439-98-7	Not applicable	Not applicable
Manganese	7439-96-5	Not applicable	Not applicable
Silicon	7440-21-3	Not applicable	Not applicable
Copper	7440-50-8	Not applicable	Not applicable
Phosphorus	7723-14-0	Not applicable	Not applicable
Activated charcoal	7440-44-0	Not applicable	Not applicable
Sulfur	7704-34-9	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 Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

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

WGK Classification Water endangering class = 2 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Iron	nwg	
Chromium	nwg	Class III : 1 mg/m³ (Massenkonzentration)
Nickel	WGK 2	Class II : 0.5 mg/m³ (Massenkonzentration) Krebserzeugende Stoffe - Class II : 0.5 mg/m³ (Massenkonzentration)
Molybdenum	nwg	
Manganese	nwg - nicht wassergefährdend (non-hazardous to waters)	Class III : 1 mg/m³ (Massenkonzentration)
Silicon	nwg	
Copper	WGK2	Class III : 1 mg/m³ (Massenkonzentration)
Phosphorus	WGK1	
Activated charcoal	nwg	
Sulfur	WGK 1	

Component	France - INRS (Tables of occupational diseases)
Iron	Tableaux des maladies professionnelles (TMP) - RG 44,RG 44bis,RG 94
Chromium	Tableaux des maladies professionnelles (TMP) - RG 10
Phosphorus	Tableaux des maladies professionnelles (TMP) - RG 5

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Chromium 7440-47-3 (23.5)	Prohibited and Restricted Substances		
Nickel 7440-02-0 (9.5)	Prohibited and Restricted Substances		
Copper 7440-50-8 (0.3)	Prohibited and Restricted Substances		
Phosphorus 7723-14-0 (0.03)	Prohibited and Restricted Substances		

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

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

H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H228 - Flammable solid
H315 - Causes skin irritation
H372 - Causes damage to organs through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects

Legend

CAS - Chemical Abstracts Service

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

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

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

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)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared By	Health, Safety and Environmental Department
Revision Date	17-Mar-2024
Revision Summary	New emergency telephone response service provider.

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

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Disclaimer

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End of Safety Data Sheet