SAFETY DATA SHEET

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

Creation Date 17-May-2018 **Revision Date** 20-Mar-2024 **Revision Number** 3

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

1.1. Product identifier

Product Description: Sponge Cobalt, A-8B46, promoted with Nickel and Chromium
Cat No. : 44871

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

Substances/mixtures which, in contact with water, emit flammable gases	Category 2 (H261)

Health hazards

Respiratory Sensitization	Category 1 Sub-category 1B (H334)
Skin Sensitization	Category 1 (H317)
Germ Cell Mutagenicity	Category 2 (H341)
Carcinogenicity	Category 1B (H350)
Reproductive Toxicity	Category 1B (H360F)

Specific target organ toxicity - (repeated exposure)	Category 2 (H373)
Environmental hazards	
Chronic aquatic toxicity	Category 4 (H413)

Full text of Hazard Statements: see section 16

2.2. Label elements

Contains Nickel/Aluminium alloy

Signal Word **Danger**

Hazard Statements

H261 - In contact with water releases flammable gases
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H360F - May damage fertility
H373 - May cause damage to organs through prolonged or repeated exposure
H413 - May cause long lasting harmful effects to aquatic life

Precautionary Statements

P231 + P232 - Handle and store contents under inert gas. Protect from moisture
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P284 - Wear respiratory protection
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P308 + P313 - IF exposed or concerned: Get medical advice/attention

Additional EU labelling

Restricted to professional users

2.3. Other hazards

Do not allow evaporation to dryness; Hydrogen gas
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
Cobalt	7440-48-4	EEC No. 231-158-0	85.5	Resp. Sens. 1B (H334) Skin Sens. 1 (H317) Muta.2 (H341) Repr. 1B (H360F) Carc. 1B (H350) Aquatic Chronic 4 (H413)
Nickel	7440-02-0	EEC No. 231-111-4	4	Skin Sens. 1 (H317) Carc. 2 (H351) STOT RE 1 (H372)
Aluminium	7429-90-5	EEC No. 231-072-3	4	Pyr. Sol. 1 (H250) Water-react. 2 (H261)
Molybdenum	7439-98-7	EEC No. 231-107-2	3	-
Chromium	7440-47-3	EEC No. 231-157-5	3	-
Iron	7439-89-6	EEC No. 231-096-4	0.5	-

Note
Water
Slurry

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 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

May cause allergy or asthma symptoms or breathing difficulties if inhaled. 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.

5.2. Special hazards arising from the substance or mixture

Pyrophoric: Spontaneously flammable in air.

Hazardous Combustion Products
Nickel oxides, Fumes of aluminum or aluminum oxide, Iron oxides, Hydrogen.

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.

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.

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. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

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

Store under an inert atmosphere. Protect from sunlight and store in well-ventilated place. Keep wetted with water. Keep away from

open flames, hot surfaces and sources of ignition.

Technical Rules for Hazardous Substances (TRGS) 510 Class 4.3
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. **IRE -** 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority **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

Component	The United Kingdom	European Union	Ireland
Cobalt	STEL: 0.3 mg/m³ 15 min TWA: 0.1 mg/m³ 8 hr Resp. Sens.		TWA: 0.02 mg/m³ 8 hr. STEL: 0.3 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
Aluminium	STEL: 30 mg/m³ 15 min STEL: 12 mg/m³ 15 min TWA: 10 mg/m³ 8 hr TWA: 4 mg/m³ 8 hr		TWA: 1 mg/m³ 8 hr. respirable fraction STEL: 3 mg/m³ 15 min
Molybdenum	STEL: 20 mg/m³ 15 min TWA: 10 mg/m³ 8 hr		
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

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 (4)			DNEL = 0.035mg/cm2	

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Cobalt 7440-48-4 (85.5)			DNEL = 40µg/m³	
Nickel 7440-02-0 (4)	DNEL = 11.9mg/m³		DNEL = 0.05mg/m³	DNEL = 0.05mg/m³
Molybdenum 7439-98-7 (3)				DNEL = 11.7mg/m³
Chromium 7440-47-3 (3)			DNEL = 0.5mg/m³	

Iron 7439-89-6 (0.5)			DNEL = 3mg/m³	

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Cobalt 7440-48-4 (85.5)	PNEC = 0.62µg/L	PNEC = 53.8mg/kg sediment dw		PNEC = 0.37mg/L	PNEC = 10.9mg/kg soil dw
Nickel 7440-02-0 (4)	PNEC = 7.1µg/L	PNEC = 109mg/kg sediment dw		PNEC = 0.33mg/L	PNEC = 29.9mg/kg soil dw
Aluminium 7429-90-5 (4)				PNEC = 20mg/L	
Molybdenum 7439-98-7 (3)	PNEC = 12.7mg/L	PNEC = 22600mg/kg sediment dw		PNEC = 21.7mg/L	PNEC = 9.9mg/kg soil dw
Chromium 7440-47-3 (3)	PNEC = 6.5µg/L	PNEC = 205.7mg/kg sediment dw			PNEC = 21.1mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Cobalt 7440-48-4 (85.5)	PNEC = 2.36µg/L	PNEC = 69.8mg/kg sediment dw			
Nickel 7440-02-0 (4)	PNEC = 8.6µg/L	PNEC = 109mg/kg sediment dw		PNEC = 0.12mg/kg food	
Molybdenum 7439-98-7 (3)	PNEC = 2.28mg/L	PNEC = 2368mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas.
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 Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

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:-** Particle filtering: EN149:2001 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	Solid Suspension	
Appearance		
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	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Cobalt	5	
Vapor Pressure	No data available	
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

Flammable solids	Burning rate or burning time = > 5 minutes and <= 10 minutes
Substances/mixtures which, in contact with water, emit flammable gases	Emitted gas ignites spontaneously
Evaporation Rate	Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Yes Spontaneously flammable in air

10.2. Chemical stability

Air sensitive.

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

Acids. Oxidizing agent.

10.6. Hazardous decomposition products

Nickel oxides. Fumes of aluminum or aluminum oxide. Iron oxides. Hydrogen.

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 No data available
Inhalation No data available

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt	LD50 = 6171 mg/kg (Rat)	-	LC50 < 0.05 mg/L (Rat) 4 h
Nickel	LD50 > 9000 mg/kg (Rat)	-	LC50 > 10.2 mg/L (Rat) 1 h
Aluminium	-	-	LC50 > 0.888 mg/L (Rat) 4 h
Molybdenum	-	LD50 > 2000 mg/kg (Rat)	LC50 > 5.84 mg/L (Rat) 4 h
Iron	7500 mg/kg (Rat)	-	-

(b) skin corrosion/irritation; No data available

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

(d) respiratory or skin sensitization;
Respiratory Sub Category 1B
Skin Category 1

No information available

(e) germ cell mutagenicity; Category 2

(f) carcinogenicity; Category 1B

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

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

(g) reproductive toxicity; Category 1B

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 2

Route of exposure Inhalation
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
Cobalt	LC50: > 100 mg/L, 96h static (Brachydanio rerio)		
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

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

Persistence 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 Product has a high potential to bioconcentrate

Component	log Pow	Bioconcentration factor (BCF)
Cobalt	5	No data available
Chromium		1.03 - 1.22

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

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. 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.

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. Can be landfilled or incinerated, when in compliance with local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1378
14.2. UN proper shipping name METAL CATALYST, WETTED
14.3. Transport hazard class(es) 4.2
14.4. Packing group II

ADR

14.1. UN number UN1378
14.2. UN proper shipping name METAL CATALYST, WETTED
14.3. Transport hazard class(es) 4.2

14.4. Packing group II

IATA

14.1. UN number UN1378
14.2. UN proper shipping name METAL CATALYST, WETTED
14.3. Transport hazard class(es) 4.2
14.4. Packing group II

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
Cobalt	7440-48-4	231-158-0	-	-	X	X	KE-06060	X	-
Nickel	7440-02-0	231-111-4	-	-	X	X	KE-25818	X	-
Aluminium	7429-90-5	231-072-3	-	-	X	X	KE-00881	X	-
Molybdenum	7439-98-7	231-107-2	-	-	X	X	KE-25427	X	-
Chromium	7440-47-3	231-157-5	-	-	X	X	KE-05970	X	-
Iron	7439-89-6	231-096-4	-	-	X	X	KE-21059	X	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Cobalt	7440-48-4	X	ACTIVE	X	-	X	X	X
Nickel	7440-02-0	X	ACTIVE	X	-	X	X	X
Aluminium	7429-90-5	X	ACTIVE	X	-	X	X	X
Molybdenum	7439-98-7	X	ACTIVE	X	-	X	X	X
Chromium	7440-47-3	X	ACTIVE	X	-	X	X	X
Iron	7439-89-6	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)
Cobalt	7440-48-4	-	Use restricted. See item 30. (see link for restriction details) Use restricted. See item 28. (see link for restriction details) 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)	-
Aluminium	7429-90-5	-	Use restricted. See item 75. (see link for restriction details)	-
Molybdenum	7439-98-7	-	-	-
Chromium	7440-47-3	-	Use restricted. See item 75. (see link for restriction details)	-
Iron	7439-89-6	-	-	-

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
Cobalt	7440-48-4	Not applicable	Not applicable
Nickel	7440-02-0	Not applicable	Not applicable
Aluminium	7429-90-5	Not applicable	Not applicable
Molybdenum	7439-98-7	Not applicable	Not applicable
Chromium	7440-47-3	Not applicable	Not applicable
Iron	7439-89-6	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 Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Take note of Directive 94/33/EC on the protection of young people at work
Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women 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

WGK Classification Water endangering class = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Cobalt	WGK 3	Class II : 0.5 mg/m³ (Massenkonzentration) Krebserzeugende Stoffe - Class I : 0.05 mg/m³ (Massenkonzentration)
Nickel	WGK 2	Class II : 0.5 mg/m³ (Massenkonzentration)

		Krebserzeugende Stoffe - Class II : 0.5 mg/m³ (Massenkonzentration)
Aluminium	nwg	
Molybdenum	nwg	
Chromium	nwg	Class III : 1 mg/m³ (Massenkonzentration)
Iron	nwg	

Component	France - INRS (Tables of occupational diseases)
Cobalt	Tableaux des maladies professionnelles (TMP) - RG 65,RG 70,RG 70bis,RG 70ter
Aluminium	Tableaux des maladies professionnelles (TMP) - RG 32 Tableaux des maladies professionnelles (TMP) - RG 16,RG 16bis
Chromium	Tableaux des maladies professionnelles (TMP) - RG 10
Iron	Tableaux des maladies professionnelles (TMP) - RG 44,RG 44bis,RG 94

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
Nickel 7440-02-0 (4)	Prohibited and Restricted Substances		
Chromium 7440-47-3 (3)	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

H261 - In contact with water releases flammable gases
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H360F - May damage fertility
H373 - May cause damage to organs through prolonged or repeated exposure
H413 - May cause long lasting harmful effects to aquatic life
H250 - Catches fire spontaneously if exposed to air
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure

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

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
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.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By	Health, Safety and Environmental Department
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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