

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

Revision Date 20-Feb-2024

**Revision Number** 3

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

#### 1.1. Product identifier

Product Description:	
Cat No. :	
Molecular Formula	

Inconel® 600 gauze 45069 Ni:Cr:Fe; 77:15.5:7.5 wt%

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 Carcinogenicity Specific target organ toxicity - (repeated exposure) Category 1 (H317) Category 2 (H351) Category 1 (H372)

#### **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

Danger

#### Hazard Statements

H317 - May cause an allergic skin reaction

H351 - Suspected of causing cancer

H372 - Causes 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

Toxicity to Soil Dwelling Organisms 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
Nickel	7440-02-0	EEC No. 231-111-4	77.0	Skin Sens. 1 (H317) Carc. 2 (H351) STOT RE 1 (H372)
Chromium	7440-47-3	EEC No. 231-157-5	15.5	-
Iron	7439-89-6	EEC No. 231-096-4	7.5	-

Full text of Hazard Statements: see section 16

**SECTION 4: 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 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	Phy	vsician	•
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Inconel® 600 gauze

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**

Heavy 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. 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

Keep in a dry place. Keep away from acids.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1D 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): **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
Nickel	STEL: 1.5 mg/m <sup>3</sup> 15 min		TWA: 0.5 mg/m <sup>3</sup> 8 hr.
	TWA: 0.5 mg/m <sup>3</sup> 8 hr Skin		STEL: 1.5 mg/m <sup>3</sup> 15 min
Chromium	STEL: 1.5 mg/m <sup>3</sup> 15 min TWA: 0.5 mg/m <sup>3</sup> 8 hr	TWA: 2 mg/m <sup>3</sup> (8hr)	TWA: 2 mg/m <sup>3</sup> 8 hr. STEL: 6 mg/m <sup>3</sup> 15 min

#### **Biological limit values**

List source(s):

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

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#### Inconel® 600 gauze

	(Dermal)	systemic (Dermal)	(Dermal)	systemic (Dermal)
Nickel			DNEL = 0.035mg/cm2	
7440-02-0 (77.0)			-	

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Nickel 7440-02-0(77.0)	DNEL = 11.9mg/m <sup>3</sup>		DNEL = 0.05mg/m <sup>3</sup>	DNEL = 0.05mg/m <sup>3</sup>
Chromium 7440-47-3(15.5)			DNEL = 0.5mg/m <sup>3</sup>	
Iron 7439-89-6 ( 7.5 )			DNEL = 3mg/m <sup>3</sup>	

### **Predicted No Effect Concentration (PNEC)**

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Nickel	PNEC = 7.1µg/L	PNEC = 109mg/kg		PNEC = 0.33mg/L	PNEC = 29.9mg/kg
7440-02-0 (77.0)		sediment dw		-	soil dw
Chromium	PNEC = 6.5µg/L	PNEC =			PNEC = 21.1mg/kg
7440-47-3 (15.5)		205.7mg/kg			soil dw
		sediment dw			

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Nickel	PNEC = 8.6µg/L	PNEC = 109mg/kg		PNEC = 0.12mg/kg	
7440-02-0 (77.0)		sediment dw		food	

#### 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)

No special protective equipment required

Hand Protection

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers	-	EN 374	(minimum requirement)
	recommendations			
Skin and body prote	ection Long sle	eved clothing.		

Respiratory Protection	No special protective equipment required.
Large scale/emergency use	In case of insufficient ventilation, wear suitable respiratory equipment
Small scale/Laboratory use	No personal respiratory protective equipment normally required 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	
Appearance	Silver	
Odor	No information available	
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	
рН	No information available	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble in water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/wat	er)	
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	
0.0 Other information		

#### 9.2. Other information

**Molecular Formula Evaporation Rate** 

Ni:Cr:Fe; 77:15.5:7.5 wt% 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 Hazardous Reactions	No information available. 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

Heavy 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	No data available
Inhalation	No data available

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nickel	LD50 > 9000 mg/kg (Rat)	-	LC50 > 10.2 mg/L (Rat) 1 h
Iron	7500 mg/kg (Rat)	-	-

(b) skin corrosion/irritation; No data available
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(c) serious eye damage/irritation;	No data available
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(d) respiratory or skin sensitization Respiratory Skin	; No data available Category 1	
	May cause sensitization by skin contact	
(e) germ cell mutagenicity;	No data available	

Category 2

(f) carcinogenicity;

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; Route of exposure Target Organs	Category 1 Inhalation 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.

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## SECTION 12: ECOLOGICAL INFORMATION

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

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	Contains substances known to be hazardous to the environment or not degradable in waste
treatment plant	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
<u>12.4. Mobility in soil</u>	Spillage unlikely to penetrate soil Is not likely solubility.	mobile in the environment due its low water
<u>12.5. Results of PBT and vPvB</u> assessment	No data available for assessment.	
<u>12.6. Endocrine disrupting</u> properties Endocrine Disruptor Information	This product does not contain any known or se	uspected 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.

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## **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

ADRNot regulated14.1. UN number14.2. UN proper shipping name14.3. Transport hazard class(es)14.4. Packing group

IATA	Not regulated
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> <u>14.3. Transport hazard class(es)</u> 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
Nickel	7440-02-0	231-111-4	-	-	Х	Х	KE-25818	Х	-
Chromium	7440-47-3	231-157-5	-	-	Х	Х	KE-05970	Х	-
Iron	7439-89-6	231-096-4	-	-	Х	Х	KE-21059	Х	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Nickel	7440-02-0	Х	ACTIVE	X	-	Х	Х	Х
Chromium	7440-47-3	Х	ACTIVE	X	-	Х	Х	Х
Iron	7439-89-6	Х	ACTIVE	X	-	Х	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		REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	on Certain Dangerous	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Nickel	7440-02-0	-	Use restricted. See item 27.	-

			(see link for restriction details) Use restricted. See item 75. (see link for restriction details)	
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
Nickel	7440-02-0	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

#### **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
Nickel	WGK 2	Class II : 0.5 mg/m <sup>3</sup> (Massenkonzentration)
		Krebserzeugende Stoffe - Class II : 0.5 mg/m <sup>3</sup>
		(Massenkonzentration)
Chromium	nwg	Class III : 1 mg/m <sup>3</sup> (Massenkonzentration)
Iron	nwg	

Component	France - INRS (Tables of occupational diseases)
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(77.0)	Prohibited and Restricted Substances		

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Chromium	Prohibited and Restricted	
7440-47-3 ( 15.5 )	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 H372 - Causes damage to organs through prolonged or repeated exposure H400 - Very toxic to aquatic life Legend **CAS** - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b) Inventory EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances Substances List PICCS - Philippines Inventory of Chemicals and Chemical Substances ENCS - Japanese Existing and New Chemical Substances **IECSC** - Chinese Inventory of Existing Chemical Substances AICS - Australian Inventory of Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances NZIOC - New Zealand Inventory of Chemicals WEL - Workplace Exposure Limit TWA - Time Weighted Average IARC - International Agency for Research on Cancer ACGIH - American Conference of Governmental Industrial Hygienists **DNEL** - Derived No Effect Level Predicted No Effect Concentration (PNEC) **RPE** - Respiratory Protective Equipment LD50 - Lethal Dose 50% LC50 - Lethal Concentration 50% EC50 - Effective Concentration 50% NOEC - No Observed Effect Concentration **POW** - Partition coefficient Octanol:Water PBT - Persistent, Bioaccumulative, Toxic vPvB - very Persistent, very Bioaccumulative ADR - European Agreement Concerning the International Carriage of ICAO/IATA - International Civil Aviation Organization/International Air Dangerous Goods by Road Transport Association IMO/IMDG - International Maritime Organization/International Maritime MARPOL - International Convention for the Prevention of Pollution from Dangerous Goods Code Ships OECD - Organisation for Economic Co-operation and Development ATE - Acute Toxicity Estimate BCF - Bioconcentration factor 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 hazardsOn basis of test dataHealth HazardsCalculation methodEnvironmental hazardsCalculation method

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

Prepared By Revision Date Revision Summary Health, Safety and Environmental Department 20-Feb-2024 New emergency telephone response service provider.

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

#### 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