

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

Creation Date 21-Mar-2011

Revision Date 20-Oct-2023

Revision Number 5

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

1.1. Product identifier		
Product Description: Cat No. :	<u>Kjeldahl catalyst tablets Selenium</u> K/0150/80, K/0150/81	
Unique Formula Identifier (UFI)	2H4A-F2S1-9X0C-WRDG	
1.2. Relevant identified uses of the s	substance or mixture and uses advised against	
Recommended Use Uses advised against	Laboratory chemicals. No Information available	
1.3. Details of the supplier of the sat	ety data sheet	
Company	UK entity/business name Fisher Scientific UK Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom EU entity/business name Thermo Fisher Scientific Janssen Pharmaceuticalaan 3a 2440 Geel, Belgium	
E-mail address	begel.sdsdesk@thermofisher.com	
1.4. Emergency telephone number	Tel: 01509 231166 Chemtrec US: (800) 424-9300 Chemtrec EU: 001-703-527-3887	
Poison Centre - Emergency information services	Ireland : National Poisons Information Centre (NPIC) - 01 809 2166 (8am-10pm, 7 days a week) Malta : +356 2395 2000 Cyprus : +357 2240 5611	

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Physical hazards

Based on available data, the classification criteria are not met

Kjeldahl catalyst tablets Selenium

Health hazards

Acute oral toxicity Acute Inhalation Toxicity - Dusts and Mists Specific target organ toxicity - (repeated exposure)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16





Signal Word

Warning

Hazard Statements

H373 - May cause damage to organs through prolonged or repeated exposure H302 + H332 - Harmful if swallowed or if inhaled

Precautionary Statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment

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
Sodium sulfate	7757-82-6	231-820-9	60-100	-
Selenium	7782-49-2	EEC No. 231-957-4	1-5	Acute Tox. 3 (H331) Acute Tox. 3 (H301) STOT RE 2 (H373) Aquatic Chronic 4 (H413)

Category 4 (H302) Category 4 (H332) Category 2 (H373) Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
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. If breathing is difficult, give oxygen. 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.
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

No information available.

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry sand. Dry chemical.

Extinguishing media which must not be used for safety reasons No information available.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Combustion Products

Sodium oxides, Sulfur oxides, 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

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Kjeldahl catalyst tablets Selenium

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

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

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Wash hands before breaks and immediately after handling the product.

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 containers tightly closed in a dry, cool and well-ventilated place. Do not store in aluminum containers. Protect from moisture.

Technical Rules for Hazardous Substances (TRGS) 510 Class 13 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

Component	The United Kingdom	European Union	Ireland
Selenium	STEL: 0.3 mg/m ³ 15 min		TWA: 0.1 mg/m ³ 8 hr. Se
	TWA: 0.1 mg/m ³ 8 hr		STEL: 0.3 mg/m ³ 15 min

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)

See table for values

Component	Acute effects local	Acute effects	Chronic effects local	Chronic effects
	(Dermal)	systemic (Dermal)	(Dermal)	systemic (Dermal)
Selenium 7782-49-2(1-5)				DNEL = 7mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Sodium sulfate 7757-82-6 (60-100)			DNEL = 20mg/m ³	DNEL = 20mg/m ³
Selenium 7782-49-2(1-5)				DNEL = 0.05mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Sodium sulfate	PNEC = 11.09mg/L	PNEC = 40.2mg/kg	PNEC = 17.66mg/L	PNEC = 800mg/L	PNEC = 1.54mg/kg
7757-82-6 (60-100)		sediment dw		-	soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Sodium sulfate	PNEC = 1.109mg/L	PNEC = 4.02mg/kg			
7757-82-6 (60-100)		sediment dw			

8.2. Exposure controls

Engineering Measures

Use only under a chemical fume hood. 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

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

Hand Protection	I	Protectiv	ve gloves		
Glove material Natural rubber Nitrile rubber Neoprene PVC	See ma	nrough time Inufacturers mendations	Glove thickness -	EU standard EN 374	Glove comments (minimum requirement)
Skin and body p	rotection	Wear ap	propriate protective	gloves and clothing to	prevent skin exposure.

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 No information available.

Kjeldahl catalyst tablets Selenium

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Solid	
Appearance Odor Odor Threshold Melting Point/Range Softening Point Boiling Point/Range Flammability (liquid) Flammability (solid,gas) Explosion Limits	Light grey No information available No data available No data available No data available No information available No information available No information available No data available	Solid
Flash Point Autoignition Temperature Decomposition Temperature pH Viscosity	No data available No data available No data available No information available Not applicable	Method - No information available
Water Solubility Solubility in other solvents Partition Coefficient (n-octanol/wate Component	Soluble in water No information available er) log Pow	
Sodium sulfate Vapor Pressure Density / Specific Gravity Bulk Density Vapor Density	-3 No data available No data available No data available Not applicable	Solid
Particle characteristics 9.2. Other information	No data available	

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 Hazardous Reactions	Hazardous polymerization does not occur. None under normal processing.
10.4. Conditions to avoid	Incompatible products. Excess heat. Avoid dust formation. Exposure to moisture.
10.5. Incompatible materials	Strong reducing agents. Metals.

10.6. Hazardous decomposition products

Sodium oxides. Sulfur oxides. 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

(a) acute toxicity;	
Oral	Category 4
Dermal	No data available
Inhalation	Category 4

Toxicology data for the components

Component	Component LD50 Oral LD50 Dermal		LC50 Inhalation		
Sodium sulfate	LD50 > 10000 mg/kg (Rat)	-	LC50 > 2.4 mg/L (Rat)4 h		
Selenium	LD50 = 6700 mg/kg(Rat)	-	>5.67 mg/l (Rat) 4hr		

(b) skin corrosion/irritation;	No data available
(c) serious eye damage/irritation;	No data available
(d) respiratory or skin sensitization Respiratory Skin	, No data available No data available
(e) germ cell mutagenicity;	No data available
(f) carcinogenicity;	No data available The table below indicates whether each agency has listed any ingredient as a carcinogen
(g) reproductive toxicity;	No data available
(h) STOT-single exposure;	No data available

Kjeldahl catalyst tablets Selenium	

(i) STOT-repeated exposure;	Category 2
Target Organs	Blood, Liver, Respiratory system, Eyes, Kidney, spleen, Skin.
(j) aspiration hazard;	Not applicable Solid

Symptoms / effects,both acute and No information available. delayed

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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

Component	Freshwater Fish	Water Flea	Freshwater Algae
Sodium sulfate	Pimephales promelas: LC50: 13.5 - 14.5 g/L/96h	EC50: 4547 mg/L/96h EC50: 2564 mg/L/48h EC50: 4547 mg/L/96h	-
Selenium	LC50: > 100 mg/L, 96h semi-static (Oncorhynchus mykiss)		

1	Component	Microtox	M-Factor
	Sodium sulfate	-	

12.2. Persistence and degradability

Persistence	Soluble in water, Persistence is unlikely, based on information available.
Degradability	Not relevant for inorganic substances.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)				
Sodium sulfate	-3	No data available				
<u>12.4. Mobility in soil</u>	The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils					
12.5. Results of PBT and vPvB assessment	In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.					
<u>12.6. Endocrine disrupting</u> properties Endocrine Disruptor Information	This product does not contain any known or su	uspected endocrine disruptors				

12.7. Other adverse effects

Kjeldahl catalyst tablets Selenium

Revision Date 20-Oct-2023

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.
European Waste Catalogue (EWC)	According to the European Waste Catalog, Waste Codes are not product specific, but application specific.
Other Information	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
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> 14.3. Transport hazard class(es) 14.4. Packing group	
ADR	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	
IATA	Not regulated
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> 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

Kjeldahl catalyst tablets Selenium

Revision Date 20-Oct-2023

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
Sodium sulfate	7757-82-6	231-820-9	-	-	Х	Х	KE-31609	Х	Х
Selenium	7782-49-2	231-957-4	-	-	Х	Х	KE-30924	Х	-
Component	CAS No	TSCA		ventory ation -	DSL	NDSL	AICS	NZIoC	PICCS

Active-Inactive

Sodium sulfate	7757-82-6	Х	ACTIVE	Х	-	Х	Х	
Selenium	7782-49-2	Х	ACTIVE	X	-	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)
Sodium sulfate	7757-82-6	-	-	-
Selenium	7782-49-2	-	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
Sodium sulfate	7757-82-6	Not applicable	Not applicable
Selenium	7782-49-2	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 .

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			
Sodium sulfate	WGK1				
Selenium	WGK2	Class II : 0.5 mg/m ³ (Massenkonzentration)			

Kjeldahl catalyst tablets Selenium

Component	France - INRS (Tables of occupational diseases)
Selenium	Tableaux des maladies professionnelles (TMP) - RG 75

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 H301 - Toxic if swallowed H302 - Harmful if swallowed H331 - Toxic if inhaled H332 - Harmful if inhaled H373 - May cause damage to organs through prolonged or repea H413 - May cause long lasting harmful effects to aquatic life	ated 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 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	 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 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 Key literature references and sources for data https://echa.europa.eu/information-on-chemicals Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, F	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)			
Classification and procedure used to derive the classificatio	on for mixtures according to Regulation (EC) 1272/2008 [CLP]:			

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.

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.

Creation Date Revision Date Revision Summary 21-Mar-2011 20-Oct-2023 Not applicable.

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