SAFETY DATA SHEET

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

Creation Date 08-Feb-2012 **Revision Date** 13-Feb-2025 **Revision Number** 6

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

1.1. Product identifier

Product Description: **Silica gel humidity indicator cards, cobalt free**
Cat No. : **448430000; 448430100; 448430250**

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

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

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

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Physical hazards

Based on available data, the classification criteria are not met

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

Environmental hazards

Chronic aquatic toxicity	Category 3 (H412)

Full text of Hazard Statements: see section 16

2.2. Label elements

Hazard Statements

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

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 %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Mixed non-hazardous components	NA		>99	-
Sodium bromide	7647-15-6	231-599-9	<0.25	STOT SE 3 (H336) Repr. 2 (H361fd) STOT RE 2 (H373)
Copper (II) chloride dihydrate	10125-13-0		<0.25	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)
Copper bromide (CuBr2)	7789-45-9	EEC No. 232-167-2	<0.25	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Copper bromide (CuBr2)	-	100 (Acute) 100 (Chronic)	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact Not an expected route of exposure.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

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

Inhalation Not an expected route of exposure.

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

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

None reasonably foreseeable.

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

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

5.2. Special hazards arising from the substance or mixture

Combustible material.

Hazardous Combustion Products
None under normal use conditions.

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

None required for material as supplied.

6.2. Environmental precautions

Avoid release to the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

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

Keep containers dry and tightly closed to avoid moisture absorption and contamination. 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

Store in a dry place. Keep container tightly closed. Keep container closed when not in use.

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): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

Component	The United Kingdom	European Union	Ireland
Copper (II) chloride dihydrate	STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr		
Copper bromide (CuBr2)	STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr		

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 (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Sodium bromide 7647-15-6 (<0.25)		DNEL = 95mg/kg bw/day		DNEL = 95mg/kg bw/day
Copper (II) chloride dihydrate 10125-13-0 (<0.25)		137 mg/kg/day		

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Sodium bromide 7647-15-6 (<0.25)				DNEL = 4.75mg/m³
Copper (II) chloride dihydrate 10125-13-0 (<0.25)	1 mg/m³	1 mg/m³		

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Sodium bromide 7647-15-6 (<0.25)	PNEC = 0.15mg/L		PNEC = 0.208mg/L	PNEC = 100mg/L	PNEC = 3.2mg/kg soil dw
Copper (II) chloride dihydrate 10125-13-0 (<0.25)	7.8 µg/L	87 mg/kg			65 mg/kg
Copper bromide (CuBr2) 7789-45-9 (<0.25)	PNEC = 7.8µg/L	PNEC = 1741mg/kg sediment dw		PNEC = 0.23mg/L	PNEC = 20mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Sodium bromide 7647-15-6 (<0.25)	PNEC = 0.075mg/L			PNEC = 3.33333mg/kg food	
Copper (II) chloride dihydrate 10125-13-0 (<0.25)	5.2 µg/L	676 mg/kg			
Copper bromide (CuBr2) 7789-45-9 (<0.25)	PNEC = 2.6µg/L	PNEC = 144mg/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 Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber Neoprene Natural rubber 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 No protective equipment is needed under normal use conditions.

Large scale/emergency use No special protective equipment required

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

Environmental exposure controls No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Paper	
Appearance	White	
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	
pH	Not applicable	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble in water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
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

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

None under normal use conditions.

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
Sodium bromide	LD50 = 3500 mg/kg (Rat)	>2000 mg/kg (Rabbit)	-
Copper bromide (CuBr2)	536 mg/kg (Rat)	-	-

(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	No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

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

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 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Sodium bromide	LC50: > 1000 mg/L, 96h static (Oncorhynchus mykiss) LC50: 24000 - 96000 mg/L, 96h flow-through (Oryzias latipes) LC50: = 24000 mg/L, 96h semi-static (Oryzias latipes) LC50: 16000 - 24000 mg/L, 96h flow-through (Poecilia reticulata) LC50: = 16000 mg/L, 96h semi-static (Poecilia reticulata) LC50: 0.054 - 0.081 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: > 1000 mg/L, 96h static (Lepomis macrochirus) LC50: 15614 - 17428 mg/L, 96h static (Pimephales promelas)	EC50: 5700 - 10800 mg/L, 48h Static (Daphnia magna) EC50: 5800 - 48000 mg/L, 48h (Daphnia magna)	EC50: 5800 - 24000 mg/L, 96h (Scenedesmus pannonicus)
Copper bromide (CuBr2)	LC50 = 286 µg/L (96h) Oncorhynchus kisutch	EC50 = 0.36 mg/L (48h) (QSAR)	EC50 = 85 µg/L (14d) Raphidocelis subcapitata

Component	Microtox	M-Factor
Sodium bromide	-	
Copper (II) chloride dihydrate	= 0.16 mg/L EC50 Photobacterium phosphoreum 30 min as Cu++ = 0.27 mg/L EC50 Photobacterium phosphoreum 15 min as Cu++ = 1.29 mg/L EC50 Photobacterium phosphoreum 5 min as Cu++	
Copper bromide (CuBr2)		100 (Acute) 100 (Chronic)

12.2. Persistence and degradability

Persistence Insoluble in water.

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

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 let this chemical enter the environment. 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 Not applicable, packaged goods

according to IMO instruments

SECTION 15: REGULATORY INFORMATION

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

International Inventories

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

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Mixed non-hazardous components	NA	-	-	-	-	-	-	-	-
Sodium bromide	7647-15-6	231-599-9	-	-	X	X	KE-31368	X	X
Copper (II) chloride dihydrate	10125-13-0	-	-	-	X	X	-	-	-
Copper bromide (CuBr2)	7789-45-9	232-167-2	-	-	X	X	KE-08921	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Mixed non-hazardous components	NA	-	-	-	-	-	-	-
Sodium bromide	7647-15-6	X	ACTIVE	X	-	X	X	X
Copper (II) chloride dihydrate	10125-13-0	-	-	-	-	X	X	X
Copper bromide (CuBr2)	7789-45-9	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 Not applicable

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)
Mixed non-hazardous components	NA	-	-	-
Sodium bromide	7647-15-6	-	-	-
Copper (II) chloride dihydrate	10125-13-0	-	-	-
Copper bromide (CuBr2)	7789-45-9	-	-	-

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
Mixed non-hazardous components	NA	Not applicable	Not applicable
Sodium bromide	7647-15-6	Not applicable	Not applicable
Copper (II) chloride dihydrate	10125-13-0	Not applicable	Not applicable
Copper bromide (CuBr2)	7789-45-9	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 .

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
Sodium bromide	WGK1	

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
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects
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

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

OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor
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.

Creation Date	08-Feb-2012
Revision Date	13-Feb-2025
Revision Summary	SDS sections updated, 2, 3, 4, 5, 6, 7, 9, 10.

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