

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

Creation Date 14-Dec-2009

Revision Date 22-Sep-2023

Revision Number 7

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

1.1. Product identifier

Product Description: Cat No. : CAS No Molecular Formula <u>Cobalt(II) carbonate hydrate</u> 192100000; 192100010; 192100500; 192102500 57454-67-8 C Co O3 . x H2 O

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

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

Acute oral toxicity Respiratory Sensitization Category 4 (H302) Category 1 (H334)

Cobalt(II) carbonate hydrate

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Category 1 (H317)

Category 2 (H341)

Category 1 (H400)

Category 1 (H410)

Category 1A (H350i)

Category 1A (H360F)

Skin Sensitization Germ Cell Mutagenicity Carcinogenicity Reproductive Toxicity

Environmental hazards

Acute aquatic toxicity Chronic aquatic toxicity

Full text of Hazard Statements: see section 16



Signal Word

Danger

Hazard Statements

- H302 Harmful if swallowed
- 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
- H350i May cause cancer by inhalation
- H360F May damage fertility
- H410 Very toxic to aquatic life with long lasting effects

Precautionary Statements

P312 - Call a POISON CENTER or doctor if you feel unwell

- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention
- P285 In case of inadequate ventilation wear respiratory protection
- P201 Obtain special instructions before use
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing

Additional EU labelling

Restricted to professional users

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Cobalt (II) Carbonate	513-79-1	EEC No. 208-169-4	-	Acute Tox. 4 (H302)

Cobalt(II) carbonate hydrate

			Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350i) Repr. 1B (H360F) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cobalt(II) carbonate hydrate	57454-67-8	100	Acute Tox. 4 (H302) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1A (H350i) Repr. 1A (H360F) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Cobalt (II) Carbonate	Carc. 1B (H350i) :: C>=0.01%	10	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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 not breathing, give artificial respiration. 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

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

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

Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Carbon oxides, Cobalt 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. 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

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

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

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

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.

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

Component	The United Kingdom	European Union	Ireland
Cobalt (II) Carbonate	STEL: 0.3 mg/m ³ 15 min		
	TWA: 0.1 mg/m ³ 8 hr		
	Resp. Sens.		
Cobalt(II) carbonate hydrate	STEL: 0.3 mg/m ³ 15 min		
	TWA: 0.1 mg/m ³ 8 hr		
	Resp. Sens.		

Biological limit values

List source(s):

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Cobalt (II) Carbonate 513-79-1 (-)			DNEL = 80.7µg/m³	

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Cobalt (II) Carbonate	PNEC = 0.62µg/L	PNEC = 53.8mg/kg		PNEC = 0.37mg/L	PNEC = 10.9mg/kg
513-79-1 (-)		sediment dw		-	soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Cobalt (II) Carbonate	PNEC = 2.36µg/L	PNEC = 69.8mg/kg			
513-79-1 (-)		sediment dw			

8.2. Exposure controls

Engineering Measures

Cobalt(II) carbonate hydrate

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 equip Eye Protection		Wear safety glasses with side shields (or goggles) (European standard - EN 166)			
Hand Protection	Protectiv	e gloves			
Glove material Natural rubber Nitrile rubber Neoprene PVC	Breakthrough time See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (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

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	Reddish violet Odorless No data available No data available No data available No information available Not applicable No information available No data available	S
Flash Point Autoignition Temperature Decomposition Temperature	No information available No data available No data available	Μ

Solid

system. Local authorities should be advised if significant spillages cannot be contained.

Method - No information available

рН	No data available	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble	
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		

Molecular Formula	C Co O3 . x H2 O	
Molecular Weight	118.94	
Evaporation Rate	Not applicable - Solid	

Cobalt(II) carbonate hydrate

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity	None known, based on information available
10.2. Chemical stability	Stable under recommended storage conditions.
10.3. Possibility of hazardous reacti	ons
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.
10.5. Incompatible materials	Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides. Cobalt oxides.

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 No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt (II) Carbonate	LD50 = 640 mg/kg (Rat)	-	LC50 > 5.08 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation;	No data available
(d) respiratory or skin sensitization Respiratory Skin	; Category 1 Category 1 No information available
(e) germ cell mutagenicity;	Category 2
	Possible risk of irreversible effects
(f) carcinogenicity;	Category 1A
	The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Cobalt (II) Carbonate	Carc Cat. 1B		Cat. 2	Group 2B

(g) reproductive toxicity; Reproductive Effects	Category 1A May impair fertility.
(h) STOT-single exposure;	No data available
(i) STOT-repeated exposure;	No data available
Target Organs	No information available.
(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.
SE	CTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity Ecotoxicity effects

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

Component	Microtox	M-Factor
Cobalt (II) Carbonate		10

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

Cobalt(II) carbonate hydrate	Revision Date 22-Sep-2023
Persistence Degradability Degradation in sewage treatment plant	Insoluble in water, May persist. Not relevant for inorganic substances. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.
12.3. Bioaccumulative potential	May have some potential to bioaccumulate; Product has a high potential to bioconcentrate
<u>12.4. Mobility in soil</u>	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.
<u>12.6. Endocrine disrupting</u> properties Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
<u>12.7. Other adverse effects</u> 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
SE	ECTION 13: DISPOSAL CONSIDERATIONS
13.1. Waste treatment methods	

Waste from Residues/Unused Products	Should not be released into the environment. 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. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> Technical Shipping Name <u>14.3. Transport hazard class(es)</u> <u>14.4. Packing group</u>	UN3077 Environmentally hazardous substances, solid, n.o.s. Cobalt(II) carbonate hydrate 9 III
ADR	
<u>14.1. UN number</u>	UN3077

14.2. UN proper shipping name Technical Shipping Name 14.3. Transport hazard class(es) 14.4. Packing group	Environmentally hazardous substances, solid, n.o.s. Cobalt(II) carbonate hydrate 9 III
IATA	
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> Technical Shipping Name <u>14.3. Transport hazard class(es)</u> <u>14.4. Packing group</u>	UN3077 Environmentally hazardous substances, solid, n.o.s. Cobalt(II) carbonate hydrate 9 III
14.5. Environmental hazards	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
14.6. Special precautions for user	No special precautions required.
14.7. Maritime transport in bulk according to IMO instruments	Not applicable, packaged goods

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

International Inventories

Cobalt(II) carbonate hydrate

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 (II) Carbonate	513-79-1	208-169-4	-	-	Х	Х	KE-06079	Х	Х
Cobalt(II) carbonate hydrate	57454-67-8	-	-	-	-	-	-	-	-

SECTION 15: REGULATORY INFORMATION

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Cobalt (II) Carbonate	513-79-1	Х	ACTIVE	Х	-	Х	Х	Х
Cobalt(II) carbonate hydrate	57454-67-8	-	-	-	-	-	-	-

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 (II) Carbonate	513-79-1	-	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 208-169-4 - Carcinogenic, Article 57a;Toxic for reproduction, Article 57c

Cobalt(II) carbonate hydrate

Cobalt(II) carbonate hydrate	57454-67-8	-	-	-

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

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https://echa.europa.eu/authorisation-list https://echa.europa.eu/substances-restricted-under-reach https://echa.europa.eu/candidate-list-table

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements
Cobalt (II) Carbonate	513-79-1	Not applicable	Not applicable
Cobalt(II) carbonate hydrate	57454-67-8	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 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

See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Cobalt (II) Carbonate	WGK3	

Component	France - INRS (Tables of occupational diseases)
Cobalt (II) Carbonate	Tableaux des maladies professionnelles (TMP) - RG 65, RG 70

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

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

H302 - Harmful if swallowed H317 - May cause an allergic skin reaction

Cobalt(II) carbonate hydrate

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled H341 - Suspected of causing genetic defects H350 - May cause cancer H350i - May cause cancer by inhalation H360F - May damage fertility H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects 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 Predicted No Effect Concentration (PNEC) **DNEL** - Derived No Effect Level **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 vPvB - very Persistent, very Bioaccumulative PBT - Persistent, Bioaccumulative, Toxic 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 VOC - (Volatile Organic Compound) 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, RTECS

Training Advice

Chemical incident response training.

Creation Date	14-Dec-2009
Revision Date	22-Sep-2023
Revision Summary	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