

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

Creation Date 04-Jan-2010 Revision Date 13-Oct-2023 Revision Number 13

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

#### 1.1. Product identifier

Product Description: 4-Dimethylaminopyridine

Cat No. : BP596-100

**Synonyms** DMAP, N,N-dimethyl-4-pyridylamine

 CAS No
 1122-58-3

 EC No
 214-353-5

 Molecular Formula
 C7 H10 N2

REACH registration number 01-2120115012-81

## 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

#### 4-Dimethylaminopyridine

Revision Date 13-Oct-2023

#### **Health hazards**

Acute oral toxicity

Acute dermal toxicity

Acute Inhalation Toxicity - Dusts and Mists

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Specific target organ toxicity - (single exposure)

Category 3 (H301)

Category 2 (H315)

Category 2 (H315)

Category 1 (H318)

Category 1 (H370)

## **Environmental hazards**

Chronic aquatic toxicity Category 2 (H411)

Full text of Hazard Statements: see section 16

## 2.2. Label elements



Signal Word

Danger

#### **Hazard Statements**

H310 - Fatal in contact with skin

H315 - Causes skin irritation

H318 - Causes serious eye damage

H370 - Causes damage to organs

H411 - Toxic to aquatic life with long lasting effects

H301 + H331 - Toxic if swallowed or if inhaled

#### **Precautionary Statements**

P310 - Immediately call a POISON CENTER or doctor/physician

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

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

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.1. Substances

4-Dimethylaminopyridine Revision Date 13-Oct-2023

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
4-Pyridinamine, N,N-dimethyl-	1122-58-3	EEC No. 214-353-5	>95	Acute Tox. 3 (H301) Acute Tox. 2 (H310) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 1 (H370) Aquatic Chronic 2 (H411)

REACH registration number	01-2120115012-81
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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.

In the case of contact with eyes, rinse immediately with plenty of water and seek medical **Eve Contact** 

advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15

minutes.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Do NOT induce vomiting. Call a physician or poison control center immediately. Ingestion

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

None reasonably foreseeable. . Causes severe eye damage. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe

damage to the delicate tissue and danger of perforation

## 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**

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

## 4-Dimethylaminopyridine

Revision Date 13-Oct-2023

## Extinguishing media which must not be used for safety reasons

No information available.

## 5.2. Special hazards arising from the substance or mixture

Very toxic. Corrosive material. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NOx).

## 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.

#### 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 6.1A Storage Class (LGK) (Germany)

## 4-Dimethylaminopyridine

#### 7.3. Specific end use(s)

Use in laboratories

# **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### 8.1. Control parameters

## **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

## **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)

Workers; See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
4-Pyridinamine, N,N-dimethyl- 1122-58-3 ( >95 )				DNEL = 0.01mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
4-Pyridinamine, N,N-dimethyl- 1122-58-3 ( >95 )		DNEL = 0.1mg/m <sup>3</sup>		$DNEL = 0.05 mg/m^3$

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

See values below.

	Component	Fresh water	Fresh water sediment		Microorganisms in sewage treatment	` ' '	
Ī	4-Pyridinamine,	PNEC = 0.004mg/L	PNEC =	PNEC = 0.04mg/L	PNEC = 50mg/L	PNEC =	
	N,N-dimethyl-		0.038mg/kg			0.0036mg/kg soil	
	1122-58-3 ( >95 )		sediment dw			dw	

Compone	nt	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
4-Pyridinam	4-Pyridinamine, PNEC =		PNEC =			
N,N-dimeth	N-dimethyl- 0.0004mg/L		0.0038mg/kg			
1122-58-3 (	>95)	_	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

Goggles (European standard - EN 166)

ACRBP596

Revision Date 13-Oct-2023

4-Dimethylaminopyridine Revision Date 13-Oct-2023

Hand Protection Protective gloves

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

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:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

141

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.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

#### 9.1. Information on basic physical and chemical properties

Physical State Solid

Appearance White Odor Strong

Odor Threshold No data available

**Melting Point/Range** 110 - 113 °C / 230 - 235 °F

Softening Point No data available

**Boiling Point/Range** 162 °C / 324 °F @ 50 mmHg

Flammability (liquid) Not applicable Solid

Flammability (solid,gas)

No information available

**Explosion Limits** No data available

Flash Point 124 °C / 255 °F Method - CC (closed cup)

Autoignition Temperature 420 °C / 788 °F Decomposition Temperature No data available

pH 11.4 10% aq. sol Viscosity Not applicable Solid

Water Solubility 76 g/L (25°C)

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow

4-Dimethylaminopyridine Revision Date 13-Oct-2023

4-Pyridinamine, N,N-dimethyl-

Vapor Pressure

negligible

Density / Specific Gravity

No data available No data available

**Bulk Density** Vapor Density

No data available Not applicable

Particle characteristics

No data available

9.2. Other information

Molecular Formula Molecular Weight C7 H10 N2 122.17

Explosive Properties Not an explo

Not an explosive Fine dust dispersed in air in sufficient concentrations, and in the presence

Solid

of an ignition source is a potential dust explosion hazard.

Oxidizing Properties

Not oxidising

**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 polymerization does not occur.

**Hazardous Reactions** 

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 monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NOx).

## **SECTION 11: TOXICOLOGICAL INFORMATION**

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### **Product Information**

(a) acute toxicity;

OralCategory 3DermalCategory 2InhalationCategory 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
4-Pyridinamine, N,N-dimethyl-	140 mg/kg ( Rat )	90 mg/kg (Rabbit)	0.53 mg/L/4h ( Rat )		

(b) skin corrosion/irritation; Category 2

4-Dimethylaminopyridine Revision Date 13-Oct-2023

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

No data available Respiratory Skin No data available

No data available (e) germ cell mutagenicity;

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

No data available (g) reproductive toxicity;

(h) STOT-single exposure; Category 1

Central nervous system (CNS). Results / Target organs

No data available (i) STOT-repeated exposure;

No information available. **Target Organs** 

(i) aspiration hazard; Not applicable

Solid

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes

severe swelling, severe damage to the delicate tissue and danger of perforation.

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** 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.

Component	Freshwater Fish	Water Flea	Freshwater Algae
4-Pyridinamine, N,N-dimethyl-	LC50 = 11.9 mg/L 96h (Zebra		EC50 = 1.82-4.22 mg/L 72h
	fish)		_

12.2. Persistence and degradability Not readily biodegradable

**Persistence** Soluble in water. Persistence is unlikely, based on information available.

Degradation in sewage Contains substances known to be hazardous to the environment or not degradable in waste

treatment plant water treatment plants.

Bioaccumulation is unlikely 12.3. Bioaccumulative potential

## 4-Dimethylaminopyridine

Revision Date 13-Oct-2023

Component	log Pow	Bioconcentration factor (BCF)		
4-Pyridinamine, N,N-dimethyl-	1.34	No data available		

12.4. Mobility in soil 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

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

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 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 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

**14.1. UN number** UN2811

**14.2. UN proper shipping name Technical Shipping Name 14.3. Transport hazard class(es)**Toxic solid, organic, n.o.s.
4-Pyridinamine, N,N-dimethyl-

14.3. Transport hazard class(es) 6.
14.4. Packing group II

<u>ADR</u>

**14.1. UN number** UN2811

14.2. UN proper shipping nameToxic solid, organic, n.o.s.Technical Shipping Name4-Pyridinamine, N,N-dimethyl-

14.3. Transport hazard class(es) 6.1 14.4. Packing group II

IATA

4-Dimethylaminopyridine Revision Date 13-Oct-2023

**14.1. UN number** UN2811

**14.2. UN proper shipping name Technical Shipping Name**Toxic solid, organic, n.o.s.
4-Pyridinamine, N,N-dimethyl-

14.3. Transport hazard class(es) 6.1 14.4. Packing group II

**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

## **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
4-Pyridinamine, N,N-dimethyl-	1122-58-3	214-353-5	-	-	Х	Χ	KE-11197	X	X

Component	CAS No	TSCA	TSCA TSCA Inventory notification - Active-Inactive		NDSL	AICS	NZIoC	PICCS
4-Pyridinamine, N,N-dimethyl-	1122-58-3	Х	ACTIVE	Х	-	Χ	Χ	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	J	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
ı	4-Pyridinamine, N,N-dimethyl-	1122-58-3	-	-	-

Not applicable

## 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
4-Pyridinamine, N,N-dimethyl-	1122-58-3	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

#### 4-Dimethylaminopyridine

Revision Date 13-Oct-2023

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)

## 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

H301 - Toxic if swallowed

H310 - Fatal in contact with skin

H331 - Toxic if inhaled

H315 - Causes skin irritation

H318 - Causes serious eye damage

H370 - Causes damage to organs

H411 - Toxic to aquatic life with long lasting effects

#### Legend

**CAS** - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic 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

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, RTECS

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

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)

## 4-Dimethylaminopyridine Revision Date 13-Oct-2023

## **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 Date04-Jan-2010Revision Date13-Oct-2023Revision SummaryNot 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**