

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

Creation Date 26-Aug-2010

Revision Date 20-Oct-2023

Revision Number 8

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

1.1. Product identifier

Product Description:	Propan-1-ol
Cat No. :	P/7481/15, P/7481/17, P/7481/21, P/7481/25, P/7481/27; P/4781/PB15
Synonyms	Propyl alcohol
Index No	603-003-00-0
CAS No	71-23-8
EC No	200-746-9
Molecular Formula	C3 H8 O
REACH registration number	01-2119486761-29

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Sector of use	Laboratory chemicals. SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
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

Tel: 01509 231166 Chemtrec US: (800) 424-9300 Chemtrec EU: 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

Propan-1-ol

Physical hazards

Flammable liquids

Health hazards

Serious Eye Damage/Eye Irritation Specific target organ toxicity - (single exposure)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor

H336 - May cause drowsiness or dizziness

H318 - Causes serious eye damage

Precautionary Statements

P280 - Wear eye protection/ face protection

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

P310 - Immediately call a POISON CENTER or doctor/physician

P240 - Ground and bond container and receiving equipment

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

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

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

2.3. Other hazards

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

Toxic to terrestrial vertebrates

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

Category 2 (H225)

Category 1 (H318) Category 3 (H336)

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				GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
n-Propyl alcohol	71-23-8	EEC No. 200-746-9	>95	Flam. Liq. 2 (H225) Eye Dam. 1 (H318) STOT SE 3 (H336)

REACH registration number	01-2119486761-29

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. Get medical attention if symptoms occur.		
Ingestion	Do NOT induce vomiting. Get medical attention.		
Inhalation	Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.		
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		
	Difficulty in breathing. Causes eye burns. Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting		
4.3. Indication of any immediate medical attention and special treatment needed			
Notes to Physician	Treat symptomatically. Symptoms may be delayed.		

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. 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 (CO₂).

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

Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing.

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

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment.

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 ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

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. Keep away from heat, sparks and flame. Flammables area.

Technical Rules for Hazardous Substances (TRGS) 510 Class 3 Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

FSUP7481

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
n-Propyl alcohol	STEL: 250 ppm 15 min		TWA: 100 ppm 8 hr.
	STEL: 625 mg/m ³ 15 min		STEL: 300 ppm 15 min
	TWA: 200 ppm 8 hr		Skin
	TWA: 500 mg/m ³ 8 hr		
	Skin		

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)
n-Propyl alcohol 71-23-8(>95)				DNEL = 136mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
n-Propyl alcohol 71-23-8 (>95)		DNEL = 1723mg/m ³		DNEL = 268mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Γ	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
			sediment		sewage treatment	
Γ	n-Propyl alcohol	PNEC = 6.83mg/L	PNEC = 27.5mg/kg	PNEC = 10mg/L	PNEC = 96mg/L	PNEC = 1.49mg/kg
	71-23-8 (>95)		sediment dw	-		soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
n-Propyl alcohol	PNEC = 0.683mg/L	PNEC = 2.75mg/kg			
71-23-8 (>95)		sediment dw			

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. 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)
Hand Protection	Protective gloves

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Glove material Butyl rubber Neoprene gloves Nitrile rubber	Breakthrough time > 480 minutes > 480 minutes	Glove thickness 0.38 mm - 0.56 mm 0.45mm	EU standard Level 6 EN 374	Glove comments As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
Viton (R) Viton (R)	> 480 minutes	0.7 mm		
Skin and body protection Wear appl		propriate protective g	oves and clothing	g to prevent skin exposure.

Inspect gloves before use.

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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: Organic gases and vapours filter Type A Brown conforming to EN14387
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 No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	Colorless	
Odor	Alcohol-like	
Odor Threshold	No data available	
Melting Point/Range	-127 °C / -196.6 °F	1,013 hPa
Softening Point	No data available	
Boiling Point/Range	97 °C / 206.6 °F	@ 760 mmHg
Flammability (liquid)	Highly flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 2 vol%	
	Upper 12 vol%	
Flash Point	15 °C / 59 °F	Method - CC (closed cup)
Autoignition Temperature	405 °C / 761 °F	
Decomposition Temperature	No data available	
pH	7	20% aq. solution
Viscosity	2.2 mPa.s at 20 °C	
Water Solubility	Soluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/wate	er)	
Component	log Pow	
n-Propyl alcohol	0.2	

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9.2. Other information

Molecular Formula Molecular Weight Explosive Properties 25 mbar @ 20 °C 0.800 Not applicable 2.07 Not applicable (liquid)

Liquid (Air = 1.0)

C3 H8 O 60.1 Not explosive Vapors may form explosive mixtures with air

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 react	ions
Hazardous Polymerization Hazardous Reactions	Hazardous polymerization does not occur. None under normal processing.
10.4. Conditions to avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
10.5. Incompatible materials	Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

OralBased on available data, the classification criteria are not metDermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Propyl alcohol	LD50 = 1870 mg/kg (Rat)	LD50 = 4049 mg/kg (Rabbit)	LC50 > 33.8 mg/L (Rat) 4 h

(b) skin corrosion/irritation;	Based on available data, the classification criteria are not met
(c) serious eye damage/irritation;	Category 1

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nogenic chemicals in this product
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CNS).
he classification criteria are not met
he classification criteria are not met
oncentrations may cause symptoms like headache, dizziness, niting.
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2. Information on other hazards

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Endocrine Disrupting Properties
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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

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Do not empty into drains. .

Component	Freshwater Fish	Water Flea	Freshwater Algae
n-Propyl alcohol	Pimephales promelas: LC50=4480 mg/L 96h	EC50: 3339 - 3977 mg/L, 48h Static (Daphnia magna) EC50: = 3642 mg/L, 48h (Daphnia magna)	

Component	Microtox	M-Factor
n-Propyl alcohol	EC50 = 17700 mg/L 5 min	
	EC50 = 45000 mg/L 5 h	
	EC50 = 8686 mg/L 15 min	
	EC50 = 980 mg/L 12 h	

12.2. Persistence and degradability Expected to be biodegradable Persistence is unlikely. Persistence

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)

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n-Propyl alcohol	0.2	No data available
<u>12.4. Mobility in soil</u>	The product is water soluble, and may spread environment due to its water solubility. Highly	in water systems . Will likely be mobile in the mobile in soils
<u>12.5. Results of PBT and vPvB</u> 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 s	uspected endocrine disruptors
<u>12.7. Other adverse effects</u> Persistent Organic Pollutant Ozone Depletion Potential	This product does not contain any known or s This product does not contain any known or s	
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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.
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 flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number	UN1274
14.2. UN proper shipping name	n-PROPANOL
14.3. Transport hazard class(es)	3
14.4. Packing group	II

ADR

14.1. UN number	UN1274
14.2. UN proper shipping name	n-PROPANOL
14.3. Transport hazard class(es)	3
14.4. Packing group	II

IATA

Propan-1-ol

14.1. UN number 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1274 n-PROPANOL 3 II
14.5. Environmental hazards	No hazards identified
14.6. Special precautions for user	No special precautions required.
14.7. Maritime transport in bulk according to IMO instruments	Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

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

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
n-Propyl alcohol	71-23-8	200-746-9	-	-	Х	Х	KE-29362	Х	Х
II-FTOPyl alconol	71-23-0	200-740-9	-	-	~	~	NL-29302	^	

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
n-Propyl alcohol	71-23-8	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

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)
n-Propyl alcohol	71-23-8	-	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	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report
		Notification	Requirements
n-Propyl alcohol	71-23-8	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 .

National Regulations

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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
n-Propyl alcohol	WGK1	

Component	France - INRS (Tables of occupational diseases)
n-Propyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
n-Propyl alcohol 71-23-8 (>95)		Group I	

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted by the manufacturer/importer

SECTION 16: OTHER INFORMATION

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

H225 - Highly flammable liquid and vapor

H318 - Causes serious eye damage

H336 - May cause drowsiness or dizziness

Legend

CAS - Chemical Abstracts Service	TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
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	 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

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Dangerous Goods by Road

Dangerous Goods Code

ADR - European Agreement Concerning the International Carriage of ICAO/IATA - International Civil Aviation Organization/International Air Transport Association IMO/IMDG - International Maritime Organization/International Maritime MARPOL - International Convention for the Prevention of Pollution from Ships ATE - Acute Toxicity Estimate VOC - (Volatile Organic Compound)

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

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.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts. Chemical incident response training.

Creation Date	26-Aug-2010
Revision Date	20-Oct-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