

Creation Date 01-Sep-2009

Revision Date 15-Feb-2019

Revision Number 17

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

### 1.1. Product identification

**Product Description:** Propan-2-ol  
**Cat No. :** P/7507/15, P/7507/15X, P/7507/17, P/7507/17X, P/7507/27SS, P/7507/27Z, P/7507/PB17, P/7507/21RSS, P/7507/10RSS, P/7507/25RSS, P/7507/30RSS, P/7507/27RSS  
**Synonyms** 2-Propanol; IPA; Isopropyl alcohol; Propan-2-ol; Isopropanol  
**CAS-No** 67-63-0  
**EC-No.** 200-661-7  
**Molecular Formula** C3 H8 O  
**Reach Registration Number** 01-2119457558-25

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

**Recommended Use** Laboratory chemicals.  
**Sector of use** 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**  
 Acros Organics BVBA  
 Janssen Pharmaceuticaaan 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 (202) 483-7616

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

#### Physical hazards

Flammable liquids

Category 2 (H225)

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## Health hazards

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

Category 2 (H319)  
Category 3 (H336)

## Environmental hazards

Based on available data, the classification criteria are not met

## 2.2. Label elements



Signal Word

Danger

## Hazard Statements

H225 - Highly flammable liquid and vapor  
H319 - Causes serious eye irritation  
H336 - May cause drowsiness or dizziness

## Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P240 - Ground/bond container and receiving equipment  
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P280 - Wear protective gloves/ protective clothing/ 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

## 2.3. Other hazards

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Isopropyl alcohol	67-63-0	200-661-7	>95	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336)

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Inhalation</b>	Move to fresh air. Obtain medical attention. If not breathing, give artificial respiration.
<b>Self-Protection of the First Aider</b>	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

Breathing difficulties. May cause central nervous system depression: 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

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

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

Do not use water jet. 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. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

#### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), peroxides.

### 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

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

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## 6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

## 6.3. Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Keep in suitable, closed containers for disposal.

## 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. Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. 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 before re-use. Wash hands before breaks and at the end of workday.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Flammables area. Keep container tightly closed in a dry and well-ventilated place.

### 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 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	The United Kingdom	European Union	Ireland
Isopropyl alcohol	STEL: 500 ppm 15 min STEL: 1250 mg/m <sup>3</sup> 15 min TWA: 400 ppm 8 hr TWA: 999 mg/m <sup>3</sup> 8 hr		TWA: 200 ppm 8 hr. STEL: 400 ppm 15 min Skin

#### Biological limit values

List source(s):

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## Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

**Derived No Effect Level (DNEL)** See table for values

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				888 mg/kg
Inhalation				500 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)** According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified. See values below.

Fresh water	140.9 mg/l
Fresh water sediment	552 mg/kg
Marine water	140.9 mg/l
Water Intermittent	140.9 mg/l
Food chain	160 mg/kg
Microorganisms in sewage treatment	2251 mg/l
Soil (Agriculture)	28 mg/kg

## 8.2. Exposure controls

### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

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

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Butyl rubber	> 480 minutes	0.5 mm	EN 374	Permeation rate < 0.9 µg/cm <sup>2</sup> /min
Nitrile rubber	> 360 - 480 minutes	0.35 - 0.55 mm		As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
Viton (R)	> 480 minutes	0.4 mm		
Neoprene	< 40 minutes	0.7 mm		

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, 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.

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	To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
<b>Large scale/emergency use</b>	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced <b>Recommended Filter type:</b> Organic gases and vapours filter Type A Brown conforming to EN14387
<b>Small scale/Laboratory use</b>	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. <b>Recommended half mask:-</b> Valve filtering: EN405; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
<b>Environmental exposure controls</b>	No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Appearance</b>	Colorless	
<b>Physical State</b>	Liquid	
<b>Odor</b>	Alcohol-like	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	7	1% aq. sol
<b>Melting Point/Range</b>	-89.5 °C / -129.1 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	81 - 83 °C / 177.8 - 181.4 °F	@ 760 mmHg
<b>Flash Point</b>	12 °C / 53.6 °F	<b>Method -</b> Abel Closed Cup (BS 2000 Part 170, IP 170, AS/NZS 2106) ASTM D 3539 (Butyl acetate = 1.0) Liquid
<b>Evaporation Rate</b>	1.7	
<b>Flammability (solid,gas)</b>	Not applicable	
<b>Explosion Limits</b>	<b>Lower</b> 2 Vol% <b>Upper</b> 12 Vol%	
<b>Vapor Pressure</b>	43 mmHg @ 20 °C	
<b>Vapor Density</b>	2.1 @ 20 °C / 68 °F	(Air = 1.0)
<b>Specific Gravity / Density</b>	0.785	ASTM D-4052
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Miscible	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Isopropyl alcohol	0.05	
<b>Autoignition Temperature</b>	425 - °C / 797 - °F	ASTM E-659
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	2.27 mPa.s at 20 °C	
<b>Explosive Properties</b>	Not explosive	explosive air/vapour mixtures possible Vapors may form explosive mixtures with air
<b>Oxidizing Properties</b>	No information available	

### 9.2. Other information

<b>Molecular Formula</b>	C3 H8 O
<b>Molecular Weight</b>	60.1
<b>VOC Content(%)</b>	100% (Organic Carbon (by mass) = 59.9 %) (EC/1999/13)
<b>Refractive index</b>	1.377 at 20 °C / 68 °F (ASTM D-1218)
<b>Surface tension</b>	22.7 mN/m at 20 °C / 68 °F
<b>Coefficient of expansion</b>	0.0009 / °C
<b>Dielectric constant</b>	18.6 at 20 °C / 68 °F
<b>Heat of vapourisation</b>	665 J/g

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Specific heat capacity 3 kJ/kg °C at 20 °C / 68 °F  
Thermal conductivity 0.137 W/m °C at 20 °C / 68 °F

## 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

Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5. Incompatible materials

Strong oxidizing agents. Acids. Halogens. Acid anhydrides.

### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). peroxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### 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

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl alcohol	5840 mg/kg ( Rat )	13900 mg/kg ( Rat ) 12870 mg/kg ( Rabbit )	72.6 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 2

#### (d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

#### (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

#### (f) carcinogenicity;

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

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(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Category 3

Results / Target organs Central nervous system (CNS).

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects, both acute and delayed May cause central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects . Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Isopropyl alcohol	LC50: = 11130 mg/L, 96h static (Pimephales promelas) LC50: > 1400000 µg/L, 96h (Lepomis macrochirus) LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas)	13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h	EC50: > 1000 mg/L, 72h (Desmodesmus subspicatus) EC50: > 1000 mg/L, 96h (Desmodesmus subspicatus)	= 35390 mg/L EC50 Photobacterium phosphoreum 5 min

### 12.2. Persistence and degradability

#### Persistence

Expected to be biodegradable  
Persistence is unlikely, based on information available.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Isopropyl alcohol	0.05	No data available

### 12.4. Mobility in soil

#### Surface tension

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air  
22.7 mN/m at 20 °C / 68 °F

### 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. Other adverse effects

Endocrine Disruptor Information  
Persistent Organic Pollutant  
Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS



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## 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 Catalogue, 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 dispose of waste into sewer. Can be incinerated, when in compliance with local regulations.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

#### 14.1. UN number

UN1219

#### 14.2. UN proper shipping name

Isopropanol (Isopropyl alcohol)

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

### ADR

#### 14.1. UN number

UN1219

#### 14.2. UN proper shipping name

Isopropanol (Isopropyl alcohol)

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

### IATA

#### 14.1. UN number

UN1219

#### 14.2. UN proper shipping name

Isopropanol

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

#### 14.5. Environmental hazards

No hazards identified

#### 14.6. Special precautions for user

No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

X = listed.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Isopropyl alcohol	200-661-7	-		X	X	-	X	X	X	X	KE-2936 3

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## National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Isopropyl alcohol	WGK 1	

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

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

## 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

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

### 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/NDL** - 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

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**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 Compounds

### 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.

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**Revision Summary** Not applicable.

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**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## 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**