

Australian statement of hazardous nature: Classified as hazardous according to criteria of Safe Work Australia

## Section 1 - Identification

Product Name Buffer pH 4.0 For use with Residual Cl2 Analyser

Synonyms None

Product Code FNNFH013

Address ThermoFisher Scientific Australia Pty Ltd

5 Caribbean Drive, Scoresby VICTORIA 3179, Australia

Emergency Tel. CHEMTREC®

03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers Tel: 1300 735 292

Fax: 1800 067 639 ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against

This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list.

Verify requirements related to using, handling and storing these substances. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice

for Chemicals of Security Concern.

## Section 2 - Hazard(s) Identification

#### Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

E-mail address

No hazards identified

**Health hazards** 

Serious Eye Damage/Eye Irritation Category 2

**Environmental hazards** 

No hazards identified

**Label Elements** 



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Signal Word Warning

#### **Hazard Statements**

H319 - Causes serious eye irritation

#### **Precautionary Statements**

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

P271 - Use only outdoors or in a well-ventilated area

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

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

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

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

#### Other information

This product does not contain any known or suspected endocrine disruptors

# Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Acetic acid	64-19-7	<50
Water	7732-18-5	>40
Sodium hydroxide	1310-73-2	<10

## Section 4 - First Aid Measures

**Inhalation** Remove to fresh air. 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. If

not breathing, give artificial respiration.

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

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

attention is required.

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

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.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Difficulty in breathing. Causes burns by all exposure routes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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

Notes to Physician Treat symptomatically.

# Section 5 - Fire Fighting Measures

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#### **Suitable Extinguishing Media**

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. Water mist may be used to cool closed containers.

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

No information available.

#### **Specific Hazards Arising from the Chemical**

Corrosive material. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### Special protective equipment and precautions for fire fighters

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

#### **Emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Remove all sources of ignition. Take precautionary measures against static discharges.

#### **Environmental Precautions**

Avoid release to the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

#### Methods for Containment and Clean Up

#### Clean-up methods - small spillage

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

#### Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

#### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

#### **Precautions for Safe Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

#### Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from heat, sparks and flame.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids

## Section 8 - Exposure Controls and Personal Protection

#### **Exposure limits**

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AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)] Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

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

**DE** - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Acetic acid	STEL: 15 ppm	TWA: 10 ppm	TWA: 10 ppm	STEL: 37 mg/m <sup>3</sup>	TWA: 10 ppm (8
	STEL: 37 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup>	STEL: 15 ppm	STEL: 15 ppm	Stunden). AGW -
	TWA: 10 ppm	STEL: 15 ppm		TWA: 10 ppm	exposure factor 2
	TWA: 25 mg/m <sup>3</sup>	STEL: 37 mg/m <sup>3</sup>		TWA: 25 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup> (8
					Stunden). AGW -
					exposure factor 2
					TWA: 10 ppm (8
					Stunden). MAK
					TWA: 25 mg/m <sup>3</sup> (8
					Stunden). MAK
					Höhepunkt: 20 ppm
					Höhepunkt: 50 mg/m <sup>3</sup>
Sodium hydroxide	2 mg/m³ TWA	Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup> STEL	2 mg/m³ TWA (inhalable
					fraction)

#### **Biological limit values**

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

#### **Exposure Controls**

#### **Engineering Measures**

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

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 (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial

applications)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber Neoprene	Breakthrough time See manufacturers recommendations	Glove thickness	AUS/NZ Standard AS/NZS 2161	Glove comments (minimum requirement)
PVC				

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.

Skin and body protection Long sleeved clothing

**Repiratory Protection**Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

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and maintenance of repiratory protective devices

Recommended Filter type: Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

Recommended half mask:- Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains.

# Section 9 - Physical and Chemical Properties

#### Information on basic physical and chemical properties

Appearance Clear Physical State Liquid

**Odor** Odorless

Odor Threshold No data available

**pH** 4.00

Melting Point/Range 0 °C / 32 °F Softening Point No data available

Boiling Point/Range No information available 100 °C /

212 °F

Flash Point Not applicable Method - No information available

**Evaporation Rate** No information available

Flammability (solid,gas) Not applicable Liquid

Explosion Limits No data available

Vapor Pressure No information available

Vapor Density 0.7 (Air = 1.0)

Specific Gravity / Density No data available 1.0 - 1.2

Bulk Density Not applicable Liquid

Water Solubility

No information available
Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

Component log Pow Acetic acid -0.2

Autoignition TemperatureNo data availableDecomposition TemperatureNo data availableViscosityNo data available

Explosive Properties explosive air/vapour mixtures possible

Oxidizing Properties No information available

Other information

VOC Content(%) 72.2699988558888

# Section 10 - Stability and Reactivity

**Reactivity** None known, based on information available

**Stability** Stable under normal conditions.

Conditions to Avoid Incompatible products, Excess heat, Keep away from open flames, hot surfaces and

sources of ignition.

**Incompatible Materials** Strong oxidizing agents, Strong bases, Metals.

Hazardous Decomposition Products None under normal use conditions.

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**Hazardous Polymerization** No information available.

# Section 11 - Toxicological Information

#### 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

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg (Rat)	-	> 40 mg/L (Rat) 4 h
Water	-	-	-
Sodium hydroxide	LD50 = 325 mg/kg ( Rat )	LD50 = 1350 mg/kg(Rabbit)	

Category 1 A (b) skin corrosion/irritation;

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

No data available Respiratory No data available Skin

No data available (e) germ cell mutagenicity;

(f) carcinogenicity; No data available

This product contains one or more substances which are classified by IARC as

carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly

carcinogenic to humans (Group 2B)

(g) reproductive toxicity; No data available

No data available (h) STOT-single exposure;

No data available (i) STOT-repeated exposure;

No information available. **Target Organs** 

(j) aspiration hazard; No data available

delayed

Symptoms / effects,both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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

# Section 12 - Ecological Information

Contains a substance which is:. Harmful to aquatic organisms. The product contains **Ecotoxicity effects** 

following substances which are hazardous for the environment.

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Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Acetic acid	Pimephales promelas:	EC50 = 95 mg/L/24h	-	Photobacterium
	LC50 = 88 mg/L/96h			phosphoreum: EC50 =
	Lepomis macrochirus:			8.8 mg/L/15 min
	LC50 = 75 mg/L/96h			Photobacterium
				phosphoreum: EC50 =
				8.8 mg/L/25 min
				Photobacterium
				phosphoreum: EC50 =
				8.8 mg/L/5 min
Sodium hydroxide	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	-	-	-

Persistence and Degradability
Degradation in sewage
treatment plant
Bioaccumulative Potential

No information available

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

No	information	available

Component	log Pow	Bioconcentration factor (BCF)	
Acetic acid	-0.2	No data available	
Mobility No information available.			
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors		
Persistent Organic Pollutant	This product does not contain any known or suspected substance		
Ozone Depletion Potential	This product does not contain any known or suspected substance		

# Section 13 - Disposal Considerations

Waste from Residues/Unused Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable 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.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

# Section 14 - Transport Information

IMDG/IMO Not regulated

ADG Not regulated

Component	Hazchem Code
Acetic acid	2P
64-19-7 ( <50 )	2R
Sodium hydroxide	2W
1310-73-2 ( <10 )	2R

<u>IATA</u> Not regulated

Environmental hazards No hazards identified

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Special Precautions No special precautions required

Additional information None known

# Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

#### Standard for the Uniform Scheduling of Medicines and Poisons

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons	
Acetic acid - 64-19-7	Schedule 2 listed	
	Schedule 5 listed - except its salts and derivatives; in preparations except when included in Schedule 2	
	or 6, or for therapeutic use	
	Schedule 6 listed - except its salts and derivatives; except when included in Schedule 2	
Sodium hydroxide - 1310-73-2	Schedule 5 listed - except its salts and derivatives;in preparations being: solid preparations the pH of which in a 10 g/L aqueous solution is >11.5;liquid or semi-solid preparations the pH of which is >11.5 except in food additive preparations for domestic use  Schedule 6 listed - except its salts and derivatives;except: [a] when included in Schedule 5 or Schedule 10, [b] in preparations containing <=5% of Sodium hydroxide being: [i] solid preparations, the pH of which in a 10 g/L aqueous solution is <=11.5, or [ii] liquid or semi-solid preparations the pH of which is <=11.5  Schedule 10 listed	

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Acetic acid - 64-19-7	Present	-
Water - 7732-18-5	Present	-
Sodium hydroxide - 1310-73-2	Present	<del>-</del>

#### Australian - Illicit Drug Precursors/Reagents Substance List

This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances.

#### **Chemicals of Security Concern**

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

Component	Australian - Illicit Drug Precursors/Reagents Substance List	Chemicals of Security Concern
Acetic acid - 64-19-7	Category 3	
Sodium hydroxide - 1310-73-2	Category 3	

#### Legend

Category 3 - Chemicals and apparatus that may be used in the illicit production of drugs. Purchases from this list should alert companies or organizations to seek further indicators of any suspicious orders or enquiries. No official reporting is required for items on this list unless considered warranted

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory

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A :: :1 04 40 T	40.4 / 〒   1   1   4					
Acetic acid - 64-19-7	10 tonne/vr. Threshold category 1					

#### Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

#### **International Inventories**

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	<b>ENCS</b>	ISHL	IECSC	KECL
Acetic acid	X	X	200-580-7	-	X	Х	-	Х	Х	Х	Х	Х
Water	Х	Х	231-791-2	-	Х	Х	-	Х	Х		Х	KE-35400
Sodium hydroxide	Х	Х	215-185-5	-	Х	Х	-	Х	Х	Х	X	KE-31487

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

#### International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

#### Basel convention on the control of transboundary movements of hazardous wastes and their dispoal

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Ī	Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Ī	Acetic acid - 64-19-7	Annex I - Y34	Y34 solid or solution
	Sodium hydroxide - 1310-73-2	Annex I - Y35	Y35 solid or solution

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Acetic acid	64-19-7	Listed	Not applicable	Not applicable	Not applicable
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Sodium hydroxide	1310-73-2	Listed	Not applicable	Not applicable	Not applicable

#### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	· · · · · · · · · · · · · · · · · · ·
Acetic acid	-	Use restricted. See entry 75. (see link for restriction details)	-
Sodium hydroxide	-	Use restricted. See entry 75. (see link for restriction details)	•

https://echa.europa.eu/substances-restricted-under-reach

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# **Section 16 - Other Information**

#### Legend

AICS - Australian Inventory of Chemical Substances

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

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air

**Transport Association** 

MARPOL - International Convention for the Prevention of Pollution from

NZS 5433:2020 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% WEL - Workplace Exposure Limit

**DNEL** - Derived No Effect Level

POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical

Substances/EU List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**CAS** - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

ADG - Australian Code for the Transport of Dangerous Goods by Road

and Rail

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

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration

**BCF** - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method **Environmental hazards** Calculation method

#### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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.

**Revision Date** 12-Mar-2025

**Revision Summary** Update to GHS format.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

#### **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**

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