

n-Butyl acetate

10430

Version / Revision4.01Revision Date31-Jan-2022Supersedes Version4.00***Issuing date31-Jan-2022

SECTION 1: Identification

1.1. Product identifier

Identification of the substance/preparation n-Butyl acetate

CAS-No 123-86-4

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

Use of the Substance /

solvent

Preparation

Uses advised against None

1.3. Details of the supplier of the safety data sheet

Supplier OQ Chemicals Corporation

15375 Memorial Drive West Memorial Place I

Suite 300

Houston, TX 77079

USA

Phone +1 346 378 7300

Product Information Product Stewardship

FAX: +49 (0)208 693 2053 email: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number NCEC +1 202 464 2554

available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This substance is classified in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

Target Organ Systemic Toxicant - Single exposure Category 3, H336

Flammable liquid Category 3, H226

Environmental hazard Aquatic Acute 3; H402

OSHA Specified Hazards Not applicable.

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2.2. Label elements

Labeling according to §1910.1200 (GHS-US labeling).

Hazard symbol(s)



Signal word Warning

Hazard statements H226: Flammable liquid and vapor.

H336: May cause drowsiness or dizziness.

H402: Harmful to aquatic life

Precautionary statements

Prevention P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P241: Use explosion-proof electrical/ ventilating/ lighting equipment.

P242: Use non-sparking tools.

P243: Take precautionary measures against static discharge.

P261: Avoid breathing gas/mist/vapours.

P271: Use only outdoors or in a well ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/eye protection/face protection.***

Response P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water or shower.

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

breathing.

P312: Call a POISON CENTRE/doctor if you feel unwell.

Storage P403 + P235: Store in a well ventilated place. Keep cool.

P405: Store locked up.

Disposal P501: Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback Vapours may form explosive mixture with air

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Components of the product may be absorbed into the body by inhalation Repeated exposure may cause skin dryness or cracking

SECTION 3: Composition / information on ingredients

3.1. Substances

Component	CAS-No	Concentration (%)
n-Butyl acetate	123-86-4	> 99,0

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Main symptoms

cough, nausea, vomiting, headache, unconsciousness, shortness of breath, dizziness, narcosis.

Special hazard

Lung oedema, central nervous system effects, Prolonged skin contact may defat the skin and produce dermatitis.

4.3. Indication of any immediate medical attention and special treatment needed

General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media



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Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO2), water spray

Unsuitable Extinguishing Media

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

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of: carbon monoxide (CO)

carbon dioxide (CO2)

Combustion gases of organic materials must in principle be graded as inhalation poisons Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback Vapours may form explosive mixture with air

5.3. Advice for firefighters

Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting

Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition. For emergency responders: Personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

6.3. Methods and material for containment and cleaning up

Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).



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6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment

See Section 8: Environmental exposure controls.

Incompatible products

strong acids and strong bases strong oxidizing agents

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. Vapours may form explosive mixture with air.

Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

Suitable material

stainless steel, mild steel, aluminium

Unsuitable material

copper, Attacks some forms of plastic and rubber

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits United States of America

US ACGIH

Component TWA	TWA	STEL	STEL
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	(mg/m³)	(ppm)	(mg/m³)	(ppm)
n-Butyl acetate CAS: 123-86-4		50		150

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US OSHA Z-1

Component	Ceiling	Ceiling	PEL	PEL	Skin
	(mg/m³)	(ppm)	(mg/m³)	(ppm)	Designation
n-Butyl acetate CAS: 123-86-4			710	150	

Note

For details and further information please refer to the original regulation.

8.2. Exposure controls

Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Individual protection measures, such as personal protective equipment

General industrial hygiene practice

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material butyl-rubber

Evaluation according to EN 374: level 3

Glove thickness approx 0,3 mm
Break through time approx 60 min

Suitable material polyvinylchloride / nitrile rubber according to EN 374: level 2

Glove thickness approx 0,9 mm
Break through time approx 30 min

Skin and body protection



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Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Respiratory protection

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (vapor or mist). Equipment should conform to NIOSH.

Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

AppearanceliquidColourcolourlessOdourfruityOdour threshold7 - 20 ppm

pH 6,2 (5,3 g/l in water @ 20 °C (68 °F)) **Melting point/range** < -130 °F (< -90 °C) (Pour point)

Method DIN ISO 3016

Boiling point/range 258,8 °F (126 °C) @ 1 atm (101,3 kPa)

Method OECD 103

Flash point 80,6 °F (27 °C) @ 1 atm (101,3 kPa)

Method EU A.9

Evaporation rate 1,0 (n-Butyl acetate = 1)

Flammability (solid, gas) Does not apply, the substance is a liquid

Lower explosion limit 1,2 Vol % **Upper explosion limit** 7,5 Vol %

Vapour pressure

Values [kPa] Values [atm] @ °C @ °F Values [hPa] Method 11,2 1,12 0,0112 20 68 EU A.4*** 57.9 5.79 0.0579 122 EU A.4*** 50

Vapour density 4,0 (Air = 1) @ 20 °C (68 °F)

Relative density

Values @ °C @ °F Method 0,881 20 68 DIN 51757 **Solubility** 5,3 g/l @ 20 °C (68 °F), in water, OECD 105***

log Pow 2,3 (measured) OECD 117

Autoignition temperature 779 °F (415 °C) @ 1 atm (101,3 kPa)***

Method DIN 51794

Decomposition temperature No data available

 Viscosity
 0,83 mPa*s @ 68 °F (20 °C)

 Method
 dynamic, OECD 114***

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9.2. Other information

Molecular weight116,16Molecular formulaC6 H12 O2

log Koc 1,27 - 1,84 calculated***

Oxidizing properties Does not apply, substance is not oxidising. There are no chemical groups

associated with oxidizing properties

Refractive Index 1,393 @ 68 °F (20 °C)

Explosive propertiesDoes not apply, substance is not explosive. There are no chemical groups

associated with explosive properties

Surface tension 61,3 mN/m (1 g/l @ 20°C (68°F)), OECD 115

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

strong acids and strong bases, strong oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

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Main symptoms

dizziness, narcosis, cough, nausea, vomiting, headache, unconsciousness, shortness of breath.

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Target Organ Systemic Toxicant - Single exposure

The available data lead to the classification given in section 2

Target Organ Systemic Toxicant - Repeated exposure

Repeated exposure may cause skin dryness or cracking

Based on available data, the classification criteria are not met for:

STOT RE

Acute toxicity				
n-Butyl acetate (123-86-4)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	10760 mg/kg	rat, female***	OECD 423
Dermal	LD50	> 14112 mg/kg	rabbit	OECD 402
Inhalative	LC50	> 20 mg/l (4h)	rat***	Weight of evidence***

n-Butyl acetate, CAS: 123-86-4

Assessment

Based on available data, the classification criteria are not met for:

Acute oral toxicity Acute dermal toxicity Acute inhalation toxicity

Irritation and corrosion				
n-Butyl acetate (123-86-	4)			
Target Organ Effects	Species	Result	Method	
Skin	rabbit	No skin irritation	OECD 404	
Eyes	rabbit	No eye irritation	OECD 405	
Respiratory tract	human	Low irritating		
		potential		

n-Butyl acetate, CAS: 123-86-4

Assessment

Based on available data, the classification criteria are not met for:

skin irritation/corrosion eye irritation/corrosion respiratory irritation

Sensitization				
n-Butyl acetate (123-86-	·4)			
Target Organ Effects	Species	Evaluation	Method	
Skin	mouse	not sensitizing	MEST***	
Skin***	human***	not sensitizing***	Human repeat insult patch test (HRIPT)***	

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Assessment

Based on available data, the classification criteria are not met for:

Skin sensitization



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For respiratory sensitization, no data are available

Subacute, subchronic and prolonged toxicity					
n-Butyl acetate (123-86-	4)				
Туре	Dose Species	Method			
Subchronic toxicity***	NOAEC: 500 ppm rat, male/female (90 d)***	EPA OTS 798.2450	Inhalation		
Subchronic toxicity***	NOAEL: 125 mg/kg/d rat, male/female (90d)***	EPA OTS 798.2650***	Oral read across		
Subchronic toxicity***	LOAEL: 500 mg/kg/d rat, male/female (90d)***	EPA OTS 798.2650***	Oral read across		

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Assessment

Based on available data, the classification criteria are not met for: STOT $\ensuremath{\mathsf{RE}}$

n-Butyl acetate (123-86	6-4)				
Туре	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium Escherichia coli***	negative	OECD 471 (Ames)	In vitro study***
Mutagenicity		CHL (Chinese hamster lung cells)	negative (without metabolic activation)	OECD 473 (Chromosomal Aberration) Chromosomal Aberration***	In vitro study
Mutagenicity		V79 cells, Chinese hamster	negative	OECD 476 (Mammalian Gene Mutation) HPRT	In vitro study read across
Mutagenicity		mouse	negative	OECD 474	in vivo read across
Reproductive toxicity	NOEC 9640 mg/m³	rat, male/female***		OECD 416	
Developmental Toxicity	LOAEC: 7230 mg/m³	rat, male/female***		OECD 414, Inhalative	Maternal toxicity Developmental toxicity
Developmental Toxicity***	NOAEC: 7230 mg/m³***	rat, male/female***		OECD 414, Inhalative***	Maternal toxicity, Developmental toxicity, Teratogenicity***
Developmental Toxicity***	NOAEC: 7230 mg/m ^{3***}	rabbit***		OECD 414, Inhalative***	Maternal toxicity Developmental toxicity***
Reproductive toxicity***	LOAEC: 750	rat,		OECD 416	Local effects***



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	ppm***	male/female***	Inhalation***	
Reproductive toxicity***	NOAEC: 750	rat,	OECD 416	systemic
	ppm***	male/female***	Inhalation***	effects***
Reproductive toxicity***	NOAEC: 2000	rat,	OECD 416	Fertility***
	ppm***	male/female***	Inhalation***	-
Reproductive toxicity***	NOAEC: 750	rat 2. Generation,	OECD 416	Developmental
	ppm***	male/female***	Inhalation***	toxicity***

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CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

Evaluation

Based on available data, the classification criteria are not met for:

Developmental toxicity

Reproductive toxicity

Mutagenicity

For carcinogecity, no data are available***

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Other adverse effects

Components of the product may be absorbed into the body by inhalation.

Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

http://echa.europa.eu/information-on-chemicals/registered-substances.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity					
n-Butyl acetate (123-86-4)					
Species	Exposure time	Dose	Method		
Pimephales promelas (fathead	96h	LC50: 18 mg/l	OECD 203		
minnow)					
Pseudokirchneriella subcapitata***	72h	EC50: 397 mg/l (Growth	OECD 201 read across***		
		rate)***			
Tetrahymena pyriformis	40 h	IC50: 356 mg/l			
Daphnia magna (Water flea)	48h	EC50: 44 mg/l	OECD 202		

Long term toxicity						
n-Butyl acetate (123-86-4)	n-Butyl acetate (123-86-4)					
Туре	Species	Dose	Method			
Aquatic toxicity	Pseudokirchneriella	NOEC: 196 mg/l	OECD 201 Growth			
	subcapitata***	(3d)***	rate			
Aquatic toxicity Reproductive	Daphnia magna	EC50: 34,2 mg/l/21d	OECD 211	read across		
toxicity	(Water flea)					



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Aquatic toxicity Reproductive	Daphnia magna	NOEC: 23,2 mg/l	OECD 211	read across
toxicity	(Water flea)	(21d)***		

Terrestrial toxicity				
n-Butyl acetate (123-86-4)				
Species	Exposure time	Dose	Туре	Method
Lactuca sativa (Lettuce)***	14 d***	EC50: > 1000 mg/kg soil dw***	Growth***	OECD 208***

12.2. Persistence and degradability

n-Butyl acetate, CAS: 123-86-4

Biodegradation

83 % (28 d), aerobic, Readily biodegradable, OECD 301 D.

Abiotic Degradation			
n-Butyl acetate (123-86-4)			
Type	Result	Method	
Hydrolysis	t1/2 (pH 7): 2,14 yr @ 25°C	calculated***	
Photolysis	Half-life (DT50): 3,3 days***	calculated***	

12.3. Bioaccumulative potential

n-Butyl acetate (123-86-4)				
Type	Result	Method		
BCF	15,3	calculated		
log Pow	2,3 @ 27 °C (77 °F)***	measured, OECD 117		

12.4. Mobility in soil

n-Butyl acetate (123-86-4)			
Туре	Result	Method	
Surface tension	61,3 mN/m (1 g/l @ 20°C (68°F))	OECD 115	
Adsorption/Desorption	log Koc: 1,27 - 1,84***	calculated	
Distribution to environmental compartments	no data available		

12.5. Results of PBT and vPvB assessment

n-Butyl acetate, CAS: 123-86-4 PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

12.6. Other adverse effects



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No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

D.O.T. (49CFR)

UN 1123 14.1. UN number **Butyl** acetates 14.2. UN proper shipping name

14.3. Transport hazard class(es) Ш 14.4. Packing group 14.5. Environmental hazards no

14.6. Special precautions for user

Reportable Quantity (RQ) 5000 lb/ 2270 kg (Butyl acetate)

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ICAO-TI / IATA-DGR

UN 1123 14.1. UN number **Butyl** acetates 14.2. UN proper shipping name

14.3. Transport hazard class(es) Ш 14.4. Packing group 14.5. Environmental hazards

no data available 14.6. Special precautions for user

IMDG

UN 1123 14.1. UN number



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14.2. UN proper shipping name

Butyl acetates

14.3. Transport hazard class(es)
14.4. Packing group
14.5. Environmental hazards

14.6. Special precautions for user

EmS F-E, S-D

14.7. Transport in bulk according to Annex II

of MARPOL and the IBC Code

Product name Butyl acetate

Ship type 3
Pollution category Y

SECTION 15: Regulatory information

Federal and State Regulations

Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

Federal Regulations

This product is listed on the TSCA inventory

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CERCLA Hazardous Substance

CERCLA RQ 5000 LBS

State Regulations

n-Butyl acetate, CAS: 123-86-4

CA Hazardous Substances (Director's) List

IL Chemical Safety Act

MA Hazardous Substances List

MA RTK List

MN Hazardous Substances List

NY RTK List

PA RTK List

RI RTK List

International Inventories

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AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2046581 (EU)

ENCS (2)-731 (JP)



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TCSI (TW)

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ISHL (2)-731 (JP) ISHL 2-(6)-226 (JP) KECI KE-04179 (KR) INSQ (MX) PICCS (PH) TSCA (US) NZIoC (NZ)

SECTION 16: Other information

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Hazard Rating Systems

NFPA (National Fire Protection Association)

Health Hazard Fire Hazard 3 Reactivity 0

HMIS (Hazardous Material Information System)

Health Hazard 2 Flammability 3 Physical Hazard 0

Training advice

For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet

Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage (www.chemicals.og.com).

The use of a comma in section 3 and section 7 to 12 is the same as a period.

Disclaimer

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

End of Safety Data Sheet