

Revision Date 03-Dec-2010

Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Description:**  $\beta$ -Propiolactone  
**Cat No.** 269040000; 269040050; 269040250  
**Synonyms** 2-Oxetanone

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

**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

### Details of the supplier of the safety data sheet

#### Company

Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

#### Emergency Telephone Number

For information in the US, call: 800-ACROS-01  
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99

Emergency Number, US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

#### REGULATION (EC) No 1272/2008

Acute Inhalation Toxicity - Dusts and Mists	Category 2
Skin Corrosion / irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1B

### Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

**Symbol(s)** T+ - Very toxic  
**R -phrase(s)** R45 - May cause cancer  
 R26 - Very toxic by inhalation  
**Risk Combination Phrases** R36/38 - Irritating to eyes and skin

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## 2. HAZARDS IDENTIFICATION

### Label Elements



### Signal Word

**Danger**

### Hazard Statements

H319 - Causes serious eye irritation

H315 - Causes skin irritation

H330 - Fatal if inhaled

H350 - May cause cancer

### Precautionary Statements - EU (§28, 1272/2008)

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

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

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

### Other Hazards

No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
β-Propiolactone 57-57-8	EEC No. 200-340-1	98	57-57-8	Carc.Cat.2;R45 T+;R26 Xi;R36/38	Carc. 1B (H350) Acute Tox. 2 (H330) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	-

For the full text of the R phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

### Description of first aid measures

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<b>Eye Contact</b>	Immediate medical attention is required Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Immediate medical attention is required
<b>Ingestion</b>	Do not induce vomiting Never give anything by mouth to an unconscious person Drink plenty of water Call a physician immediately If possible drink milk afterwards
<b>Inhalation</b>	Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Immediate medical attention is required
<b>Notes to Physician</b>	Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

Water spray Carbon dioxide (CO<sub>2</sub>) Dry chemical Use water spray to cool unopened containers chemical foam

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

No information available.

### Special hazards arising from the substance or mixture

Combustible material Flammable

### Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

### Environmental precautions

Prevent further leakage or spillage if safe to do so

### Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Prevent product from entering drains. Keep in suitable and closed containers for disposal. Remove all sources of ignition. Provide adequate ventilation. Neutralize with lime milk or soda and flush with plenty of water. Do not flush into surface water or sanitary sewer system.

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Do not breathe dust Do not breathe vapors or spray mist Do not get in eyes, on skin, or on clothing Use only in area provided with appropriate exhaust ventilation

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### Conditions for safe storage, including any incompatibilities

Keep container tightly closed Keep away from heat and sources of ignition Protect from light Keep at temperatures below .?1°C Store in freezer Store contents under argon

### Specific End Uses

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### Exposure limits

#### Component

.beta.-Propiolactone

European Union	The United Kingdom	France	Belgium	Spain
			TWA: 0.5 ppm TWA: 1.5 mg/m <sup>3</sup>	VLA-ED: 0.5 ppm VLA-ED: 1.5 mg/m <sup>3</sup>

#### Component

.beta.-Propiolactone

Italy	Portugal	The Netherlands	Finland	Denmark
	TWA: 0.5 ppm			TWA: 0.1 ppm TWA: 1.5 mg/m <sup>3</sup>

#### Component

.beta.-Propiolactone

Austria	Switzerland	Poland	Norway	Ireland
	MAK: 0.5 ppm MAK: 1.5 mg/m <sup>3</sup>	NDS: 1 mg/m <sup>3</sup>	TWA: 0.5 ppm TWA: 1.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup> TWA: 1.5 mg/m <sup>3</sup>

### Derived No Effect Level (DNEL)

No information available.

### Predicted No Effect Concentration (PNEC)

No information available.

### Exposure controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

### Personal protective equipment

#### Eye Protection

Goggles Face-shield

#### Hand Protection

Protective gloves

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical State

Liquid

### Appearance

Colorless

### odor

pungent

### pH

No information available.

### Vapor Pressure

3 mbar @ 20 °C

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Density	2.5 (Air = 1.0)
Boiling Point/Range	162°C / 323.6°F
Melting Point/Range	-33°C / -27.4°F
Decomposition temperature	155 °C
Flash Point	70°C / 158°F
Explosion Limits	
Lower	2.9
Water Solubility	37% in water
Specific Gravity	1.146
Molecular Formula	C3 H4 O2
Molecular Weight	72.06

## 10. STABILITY AND REACTIVITY

### Reactivity

#### Chemical Stability

Stable under normal conditions

### Possibility of Hazardous Reactions

#### Hazardous Polymerization

Hazardous polymerization may occur.

#### Hazardous Reactions .

No information available.

### Conditions to Avoid

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

### Incompatible Materials

Acids, Bases, Strong oxidizing agents, Strong acids, Strong bases, Halogens.

### Hazardous Decomposition Products

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

## 11. TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Acute Toxicity

##### Product Information

No acute toxicity information is available for this product

#### Component Information

##### Component

.beta.-Propiolactone

LD50 Oral	LD50 Dermal	LC50 Inhalation
		25 ppm ( Rat ) 6 h

#### Chronic Toxicity

##### Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

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Component	IARC	UK
.beta.-Propiolactone	Group 2B	

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Target Organs</b>	No information available.
<b>Other Adverse Effects</b>	See actual entry in RTECS for complete information
<b>Endocrine Disruptor Information</b>	None known

## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	
<b>Ecotoxicity effects</b>	Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

<b>Persistence and degradability</b>	Expected to be biodegradable
<b>Bioaccumulative potential</b>	Bioaccumulation is unlikely
<b>Mobility in soil</b>	No information available.
<b>Results of PBT and vPvB assessment</b>	
<b>Other adverse effects</b>	No information available

## 13. DISPOSAL CONSIDERATIONS

<b>Waste treatment methods</b>	
<b>Waste from Residues / Unused Products</b>	Dispose of in accordance with local regulations
<b>Contaminated Packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal

## 14. TRANSPORT INFORMATION

<b>IMDG/IMO</b>	
<b>UN-No</b>	3382
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I
<b>Proper Shipping Name</b>	TOXIC BY INHALATION LIQUID, N.O.S.

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## 14. TRANSPORT INFORMATION

### ADR

UN-No 3382  
Hazard Class 6.1  
Packing Group I  
Proper Shipping Name TOXIC BY INHALATION LIQUID, N.O.S.

### IATA

UN-No 3382  
Hazard Class 6.1  
Packing Group I  
Proper Shipping Name TOXIC BY INHALATION LIQUID, N.O.S.\*

## 15. REGULATORY INFORMATION

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

#### International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
beta.-Propiolactone	200-340-1	-		X	-	X	-	X	-	X	KE-29759 X

### Legend

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

**EINECS/ELINCS** - European Inventory Lists

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

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

**CHINA** - China Inventory of Existing Chemical Substances

**AICS** - Inventory of Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

### Chemical Safety Assessment

## 16. OTHER INFORMATION

### Text of R phrases mentioned in Section 2-3

R45 - May cause cancer

R26 - Very toxic by inhalation

R36/38 - Irritating to eyes and skin

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Revision Summary

Not applicable

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**16. OTHER INFORMATION**

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

**Disclaimer**

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

End of Safety Data Sheet