

---

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Name of product**

Tetradecalactone delta R  
Prod-Nr 20078

**Name of substance**

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

No information available.

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

**Manufacturer/distributor**

A.C.S. International GmbH  
Im Wesertal 5, D-37671 Hörter - Stahle  
Phone +49 (0)5531 9906160, Fax +49 (0)5531 9906199  
E-Mail a.finkelmeier@acsint.com  
Internet www.acsint.com

**Advice**

GLZ-Nord, Göttingen, Germany

### 1.4. Emergency telephone number

**Emergency advice**

Phone +49 551 19240

---

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Hazard statements for physical hazards**

no

**Hazard statements for health hazards**

no

**Hazard statements for environmental hazards**

no

### 2.2. Label elements

**Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]**

**Hazard statements for physical hazards**

no

**Hazard statements for health hazards**

no

**Hazard statements for environmental hazards**

no

### 2.3. Other hazards

No information available.

---

## ! SECTION 3: Composition/ information on ingredients

### 3.1. Substances

not applicable

### 3.2. Mixtures

No information available.

### 3.1. Substances

**CAS No 2721-22-4**

EC No 220-334-2

**tetrahydro-6-nonyl-2H-pyran-2-one**

### 3.2. Mixtures

not applicable

---

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Remove contaminated soaked clothing immediately.

#### In case of inhalation

In case of inhalation remove the casualty into fresh air and seek medical advice.

#### In case of skin contact

In case of contact with skin wash off immediately with soap and water.

Remove contaminated clothing immediately, even underwear and shoes.

Seek medical advice immediately.

#### In case of eye contact

In case of contact with eyes rinse with plenty of water carefully. In the event of persistent symptoms seek medical treatment.

#### In case of ingestion

Turn a vomiting person lying on his back onto his side.

Do not induce vomiting.

Rinse out mouth thoroughly with water.

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

No information available.

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

No information available.

---

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Foam

Dry fire-extinguishing substance

Carbon dioxide

#### Unsuitable extinguishing media

Full water jet

---

**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

**Special protective equipment for fire-fighters**

Use breathing apparatus with independent air supply.  
Do not inhale explosion and/or combustion gases.

**Additional information**

Cool endangered containers with water spray jet.

---

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Ensure adequate ventilation.  
Remove persons to safety.  
Use personal protective clothing.  
Keep away sources of ignition.

**6.2. Environmental precautions**

Do not discharge into the drains/surface waters/groundwater.

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

Take up with absorbent material (e.g. sand, sawdust, general-purpose binder).  
After taking up the material dispose according to regulation.

**6.4. Reference to other sections**

No information available.

---

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.  
Take the usual precautions when handling with chemicals.

**General protective measures**

Avoid contact with eyes and skin  
Do not inhale gases/vapours/aerosols.

**Hygiene measures**

At work do not eat, drink and smoke.  
Remove soaked clothing immediately.  
Wash hands before breaks and after work.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking

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

### Advice on storage compatibility

Do not store together with oxidizing agents.

### Further information on storage conditions

Keep container tightly closed.

Protect from heat and direct solar radiation.

Store at cool and aired place.

## 7.3. Specific end use(s)

No information available.

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

### Additional advice

not determined

## 8.2. Exposure controls

### Respiratory protection

In case of insufficient ventilation or long-term effect use breathing apparatus.

### Hand protection

chemical-resistant gloves

### Eye protection

safety goggles with side protection

### Other protection measures

Light protective clothing.

### Limitation and surveillance of the environment

not determined

# ! SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

### Appearance

liquid

### Colour

colorless to pale yellow

### Odour

waxy

### Odour threshold

not determined

### Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
<b>pH value</b>	not determined				
<b>Acid number</b>	< 5 mgKOH/g				
<b>boiling point</b>	339 °C		760 mbar		
<b>melting point</b>	15 °C				

	Value	Temperature	at	Method	Remark
<b>Flash point</b>	> 100 °C			closed cup	
<b>Vapourisation rate</b>	not determined				
<b>Flammable (solid)</b>	not determined				
<b>Flammability (gas)</b>	not determined				
<b>Ignition temperature</b>	not determined				
<b>Self ignition temperature</b>	not determined				
<b>Lower explosion limit</b>	not determined				
<b>Upper explosion limit</b>	not determined				
<b>Vapour pressure</b>	not determined				
<b>Relative density</b>	0,931 - 0,941 g/cm <sup>3</sup>	20 °C			
<b>Vapour density</b>	not determined				
<b>Solubility in water</b>					insoluble
<b>Solubility/other</b>	not determined				
<b>Partition coefficient n-octanol/water (log P O/W)</b>	not determined				
<b>Decomposition temperature</b>	not determined				
<b>Viscosity</b>	not determined				
<b>Oxidising properties</b>	No information available.				
<b>Explosive properties</b>	No information available.				
<b>9.2. Other information</b>	No information available.				

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

No information available.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

Evolution of heat.

### 10.5. Incompatible materials

#### Substances to avoid

Reactions with strong oxidising agents.

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

### Thermal decomposition

Remark                      Stable at ambient temperature.

## ! SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
<b>LD50 acute oral</b>		rat	not determined	
<b>LD50 acute dermal</b>		rabbit	not determined	
<b>LC50 acute inhalation</b>		guinea pig	not determined	
<b>Skin irritation</b>		rabbit	not determined	
<b>Eye irritation</b>		rabbit eye	not determined	
<b>Skin sensitization</b>		Guinea pig	No information available.	

## SECTION 12: Ecological information

### 12.1. Toxicity

No information available.

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

No information available.

### 12.4. Mobility in soil

No information available.

#### 12.5. Results of PBT and vPvB assessment

No information available.

#### 12.6. Other adverse effects

No information available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Recommendations for the product

Remove in accordance with local official regulations.

##### Recommendations for packaging

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

Packaging that cannot be cleaned should be disposed of like the product.

### SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	-	-	-
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)	-	-	-
14.4. Packing group	-	-	-
14.5. Environmental hazards	-	-	-

#### 14.6. Special precautions for user

No information available.

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

#### Land and inland navigation transport ADR/RID

Not classified.

#### Transport/further information

No dangerous goods as defined by the transport regulations - ADR/RID, IMDG, ICAO/IATA-DGR.

---

## SECTION 15: Regulatory information

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

#### National regulations

Water hazard class -

Decree for case of interference/remarks no

### 15.2. Chemical Safety Assessment

No information available.

---

## SECTION 16: Other information

### Training advice

no

### Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

### Further information

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 2.0

### Sources of key data used

Listed in EINECS and TSCA