

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

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Patulin (PAT)
EC-No.	: 205-735-2
CAS-No.	: 149-29-1
Product code	: CH-06-SX
Formula	: C7H6O4
Synonyms	: 4-Hydroxy-4H-furo[3,2-c]pyran-2(6H)-one
Product group	: End product

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

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

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

aokin AG  
Robert-Rössle-Str. 10  
13125 Berlin - Deutschland  
T +49 (0)30 94 89 21 60 (Monday-Friday, 8:00 am-4:00 pm) - F +49 (0)30 94 89 21 61  
[info@aokin.com](mailto:info@aokin.com) - [www.aokin.com](http://www.aokin.com)

#### 1.4. Emergency telephone number

Emergency number	: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; International: aokin AG +49-30-9489-2160 (Phone, Monday-Friday, 8:00 am-4:00 pm)
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 2 (Oral) H300  
Skin Irrit. 2 H315

Full text of hazard classes and H-statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS06

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H300 - Fatal if swallowed.  
H315 - Causes skin irritation.

Precautionary statements (CLP)

: P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor.  
P302+P352 - IF ON SKIN: Wash with plenty of water.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 2.3. Other hazards

Other hazards which do not result in classification : This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Patulin (PAT)	(CAS-No.) 149-29-1 (EC-No.) 205-735-2	≤ 100

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Consult a doctor. Show this safety data sheet to the doctor in attendance.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution. Remove contact lenses, if possible. Continue rinsing.  
First-aid measures after ingestion : Drink water immediately (max. 2 cups). Call a physician immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

Symptoms/effects : The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Water, extinguishing powder. Carbon dioxide (CO<sub>2</sub>).  
Unsuitable extinguishing media : There are no extinguishing agent restrictions for this substance.

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

Fire hazard : Combustible.  
Reactivity in case of fire : In case of fire: hazardous combustion gases or vapors possible.  
Hazardous decomposition products in case of fire : Carbon oxides.

### 5.3. Advice for firefighters

Protection during firefighting : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.  
Other information : Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Avoid breathing dust. Avoid creating or spreading dust. Avoid substance contact. Ensure adequate ventilation, observe emergency procedures, consult an expert.

#### 6.1.2. For emergency responders

Protective equipment : Self-contained breathing apparatus.

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Prevent further leakage or spillage if safe to do so.

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

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4. Reference to other sections

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe substance/ mixture. Provide adequate ventilation to minimize dust and/or vapour concentrations. Avoid contact with skin and eyes.

Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Apply preventive skin protection. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Keep container tightly closed in a well-ventilated, dry place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage temperature : -20 °C

Storage area : Storage class (TRGS 510): See section 15.1.2.

### 7.3. Specific end use(s)

Scientific research and development.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Patulin (PAT) (149-29-1)

Germany	Contains no substances with occupational exposure limits
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### 8.2. Exposure controls

#### Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Hand protection:

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact-material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Splash contact-material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

#### Eye protection:

Wear closed safety glasses. EN 166. Use face shield for larger quantities.

#### Skin and body protection:

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Flame retardant antistatic protective clothing

#### Respiratory protection:

Required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.



### Environmental exposure controls:

Do not let product enter drains. Prevent further leakage or spillage if safe to do so.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 154.12 g/mol
Colour	: White.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 109 – 111 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Strong oxidizing agents. Acids.

### 10.6. Hazardous decomposition products

In the event of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Fatal if swallowed.

Patulin (PAT) (149-29-1)	
LD50 oral rat	27.79 mg/kg Remarks: Behavioral: Change in motor activity (specific assay). Lungs, Thorax or Respiration: Dyspnea. Gastrointestinal: Other changes. (RTECS)

Skin corrosion/irritation : Causes skin irritation.  
 Serious eye damage/irritation : Not classified  
 Respiratory or skin sensitisation : Not classified  
 Germ cell mutagenicity : Not classified  
 Carcinogenicity : This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification.  
 Reproductive toxicity : Not classified  
 STOT-single exposure : Not classified  
 STOT-repeated exposure : Not classified  
 Aspiration hazard : Not classified  
 Potential adverse human health effects and symptoms : nausea, vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

Patulin (PAT) (149-29-1)	
Results of PBT assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Product residues are to be disposed of in compliance with national and regional regulations dispose. Keep chemicals in original containers. Not with other waste mix. Uncleaned containers are to be treated according to the product. Pay attention to the waste policy 2008/98/EG.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number</b>		
3462	3462	3462
<b>14.2. UN proper shipping name</b>		
TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Patulin)	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Patulin)	Toxins, extracted from living sources, solid, n.o.s. (Patulin)
<b>14.3. Transport hazard class(es)</b>		
6.1	6.1	6.1

# Patulin (PAT)

## Safety Data Sheet



according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ADR	IMDG	IATA
<b>14.4. Packing group</b>		
II	II	II
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

### 14.6. Special precautions for user

#### - Overland transport

No data available

#### - Transport by sea

No data available

#### - Air transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Patulin (PAT) is not on the REACH Candidate List

Patulin (PAT) is not on the REACH Annex XIV List

Seveso Information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ACUTE TOXIC

#### 15.1.2. National regulations

##### Germany

Regulatory reference : WGK 3, Highly hazardous to water  
 Storage class (LGK, TRGS 510) : LGK 6.1A - Combustible substances of acute toxicity, categories 1 and 2 / very toxic substances  
 Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)  
 Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)  
 Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### 15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H300	Fatal if swallowed.
H315	Causes skin irritation.

# Patulin (PAT)

## Safety Data Sheet



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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*