



# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878  
Issue date: 01/01/2021 Revision date: 16/01/2023 Supersedes version of: 16/05/2021 Version: 2.0

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

### 1.1. Product identifier

Product form : Substance  
Substance name : ATTO 488 cadaverine  
Product code : AD 488-23

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

#### 1.2.1. Relevant identified uses

Fluorescent label, labeling of bio-molecules

#### 1.2.2. Uses advised against

No additional information available

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

#### Manufacturer

ATTO-TEC GmbH  
Martinshardt 7  
57074 Siegen  
T +49-271-23853-0 - F +49-271-23853-11  
[info@atto-tec.com](mailto:info@atto-tec.com)  
[www.atto-tec.com](http://www.atto-tec.com)

### 1.4. Emergency telephone number

Emergency number : +49-271-23853-0 (8:30 - 16:30)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Not classified

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

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

### 2.2. Label elements

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

Precautionary statements (CLP) : P102 - Keep out of reach of children.  
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
EUH-statements : EUH210 - Safety data sheet available on request.

### 2.3. Other hazards

No additional information available

# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%
ATTO 488 cadaverine	AD 488-23	100

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store at -20°C

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



##### 8.2.2.1. Eye and face protection

###### Eye protection:

Protective goggles (EN 166)

##### 8.2.2.2. Skin protection

###### Skin and body protection:

Wear suitable protective clothing

# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Hand protection:					
Protective gloves					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,2	1 (< 4.0)	EN 374-3, EN 374-2

## 8.2.2.3. Respiratory protection

Respiratory protection:
No respiratory protection needed under normal use conditions

## 8.2.2.4. Thermal hazards

No additional information available

## 8.2.3. Environmental exposure controls

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid	
Colour	: Various colours.	
Odour	: odourless.	
Odour threshold	: Not available	
Melting point	: Not available	
Freezing point	: Not available	
Boiling point	: Not available	
Flammability	: Not available	
Explosive limits	: Not applicable	
Lower explosion limit	: Not applicable	
Upper explosion limit	: Not applicable	
Flash point	: Not applicable	
Auto-ignition temperature	: Not applicable	
Decomposition temperature	: Not available	
pH	: Not available	
pH solution	: Not available	
Viscosity, kinematic	: Not applicable	
Solubility	: In water: excellent	Soluble in: dimethyl sulfoxide, dimethylformamide
Partition coefficient n-octanol/water (Log Kow)	: Not available	
Vapour pressure	: Not available	
Vapour pressure at 50 °C	: Not available	
Density	: Not available	
Relative density	: Not available	
Relative vapour density at 20 °C	: Not applicable	
Particle size	: Not available	
Particle size distribution	: Not available	
Particle shape	: Not available	
Particle aspect ratio	: Not available	
Particle aggregation state	: Not available	
Particle agglomeration state	: Not available	
Particle specific surface area	: Not available	
Particle dustiness	: Not available	

# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

## 9.2. Other information

### 9.2.1. Information with regard to physical hazard classes

No additional information available

### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

# Safety Data Sheet (SDS)

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## 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

No additional information available

## 12.6. Endocrine disrupting properties

No additional information available

## 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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## 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

SDB Fluoreszenzmarker is not on the REACH Candidate List

SDB Fluoreszenzmarker is not on the REACH Annex XIV List

SDB Fluoreszenzmarker is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

SDB Fluoreszenzmarker is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration

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RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

## Full text of H- and EUH-statements:

EUH210	Safety data sheet available on request.
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The classification complies with : ATP 12

SDS EU (REACH Annex II)

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.