

MolBoolean

**MolBoolean**  
SAFETY DATA SHEET (SDS)

- **Sodium Azide\_MolBoolean** ....pages 2-9
- **DTT\_MolBoolean**....pages 10-17



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## 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY/UNDERTAKING

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### 1.1 Product identifier

**Product** MolBoolean kit

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

**Intended used** Use as Laboratory reagent, Scientific research and development

**Uses advised against** Product is not recommended for any use other than the identified uses above

### 1.3 Details of the suppliers of the safety data sheet

**Manufacturer/Supplier** Atlas Antibodies AB  
Voltavägen 13A  
SE-168 69 Bromma

**Telephone** +46 54 59 58 50

**Website** [www.atlasantibodies.com](http://www.atlasantibodies.com)

E-mail address: [support@atlasantibodies.com](mailto:support@atlasantibodies.com)

### Emergency telephone number

**In Emergency:** Phone local emergency number

## 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

Classification according to the Regulation (EC) No 1272/2008

Not Classified

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Not Regulated

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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#### 3.1 Substances

Not Applicable

#### 3.2 Mixtures

A solution containing Sodium Azide  
MolBoolean kit tubes: 2, 3, 4.

Component	CAS-No.	EINECS-No.	Weight percent	REACH registration number	Classification according to Regulation (EC) No 1272/2008 [CLP]
SODIUM AZIDE 26628-22-8 ( 0.01-0.1 )	26628-22-8	-	0.01-0.1	-	Acute Tox. 2 - H300 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

### 4. FIRST AID MEASURES

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#### 4.1 Description of first aid measures

General notes

##### Following inhalation

Not expected to be an inhalation hazard under anticipated conditions of normal use of this material.  
Consult a physician if necessary.

##### Following skin contact

Rinse with plenty of water. Immediate medical attention is not required.

##### Following eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.

##### Following ingestion

Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

##### Self-protection of the first aider

Not needed

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

Sodium azide is very toxic. This is a solution (0,01-0,1 %).

Ingestion: pure substance may cause dizziness, headache and hypotension and severe general impact (shock).

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

None.

## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

Suitable Extinguishing Media: Use water fog, foam, dry chemical powder or carbon dioxide

Unsuitable Extinguishing Media: Straight streams of water

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

Hazardous combustion products, such as NO<sub>x</sub> might be released in the event of fire.

### 5.3 Advise for firefighters

Standard procedure for chemical fires

## 6. ACCIDENTAL RELEASE MEASURE

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

Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

### 6.2 Environmental precautions

Do not allow material to enter drains or water courses. Contact Emergency Services during major spill.

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

Collect with inert absorbent material.

### 6.4 Reference to other sections

For waste disposal see section 13. For personal protection see section 8.

## 7. HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

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

Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

### 7.3 Specific end use(s)

Use as laboratory reagent. Scientific research and development.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control parameters

Does not contain substances with occupational exposure limits.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice.

#### 8.2.2 Individual protection measures

- |                            |   |
|----------------------------|---|
| a) Eye/Face protection:    | If contact is likely use chemical safety goggles.   |
| b) Skin protection:        |   |
| I. Hand protection         | Wear suitable gloves. Glove material: Compatible chemical-resistant gloves. Recommended is nitrile rubber glove, 0.11mm, permeability breakthrough time >480 minutes. |
| II. Other                  | Not necessary   |
| c) Respiratory protection: | In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standard.  |
| d) Thermal hazards:        | None.   |

#### 8.2.3 Environmental exposure controls

See section 6.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basis and chemical properties

a) Appearance	Liquid
b) Odor	No data available
c) Odor Threads hold	No data available
d) pH	No data available
e) Melting Point / Freezing Point	Mixture has not been tested
f) Initial Boiling Point and Boiling Range	Mixture has not been tested
g) Flash Point	Mixture has not been tested
h) Evaporation Rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/Lower Flammability or Explosive Limits	Mixture has not been tested
k) Vapor Pressure	Mixture has not been tested
l) Vapor Density	Mixture has not been tested
m) Relative Density	Mixture has not been tested
n) Solubility (ies)	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Autoignition Temperature	Mixture has not been tested
q) Decomposition Temperature	Mixture has not been tested
r) Viscosity	No data available
s) Explosive Properties	Mixture has not been tested
t) Oxidising Properties	Mixture has not been tested

### 9.2 Other information

No data available

## 10. STABILITY AND REACTIVE

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### 10.1 Reactivity

Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Contact with acids liberates very toxic gas.

### 10.2 Chemical stability

Product is stable in normal use and storage (room temperature).

### 10.3 Possibility of hazardous reactions

Hazardous combustion products, such as NO<sub>x</sub>, might be released in the event of fire. Contact with acids liberates very toxic gas (hydrogen azide).

### 10.4 Conditions to avoid

Avoid high temperatures and contact with possible ignition sources.

### 10.5 Incompatible materials

No known hazardous decomposition products.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

a) Acute toxicity (source RTECS)

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LD50 (inhalation, rat/mouse)
SODIUM AZIDE	27 mg/kg (Rat)	20 mg/kg (Rabbit)	0,054-0,52 mg/l (Rat)

Conclusive but not sufficient for classification

- |                                      |   |
|--------------------------------------|---|
| b) Skin Corrosion/irritation         | Not expected to irritate the skin.                                      |
| c) Serious Eye Damage/irritation     | Not expected to irritate the eyes.                                      |
| d) Respiratory or Skin Sensitization | Not expected to be respiratory or skin sensitizer.                      |
| e) Germ Cell Mutagenicity            | Not expected to be germ cell mutagen.                                   |
| f) Carcinogenicity                   | Not expected to cause cancer.   |
| g) Reproductive Toxicity             | Not expected to be reproductive toxicant.                               |
| h) STOT-single exposure              | Not expected to cause organ damage from single exposure.                |
| i) STOT-repeated exposure            | Not expected to cause organ damage from prolonged or repeated exposure. |
| j) Aspiration Hazard                 | Not expected to be an aspiration hazard.                                |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

The environmental impact of this product has not been fully investigated.

#### Toxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
SODIUM AZIDE	No data available	No data available	No data available	No data available	No data 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-vPvB assessment

This product does not contain any substance that is a PBT or a vPvB.

**12.6 Other adverse effect**

None

**13. DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Waste disposal according to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing and to national and local regulations.

Regulatory disposal information, proposal for European Waste Code: 16 05 07 discarded inorganic chemicals consisting of or containing hazardous substances.

**14. TRANSPORT INFORMATION**

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Not regulated for Land Transport (ADR/RID), for Sea Transport (IMDG) or for Air Transport (IATA).

**14.1 UN-Number**

Not applicable

**14.2 UN Proper Shipping Name**

Not applicable

**14.3 Transport Hazard Class(es)**

Not applicable

**14.4 Packaging Group**

Not applicable

**14.5 Environmental Hazards**

Not applicable

**14.6 Special Precaution for users**

None

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

Not classified according to Annex II.



## **15. REGULATORY INFORMATION**

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

Water Hazard Classes (Germany): Hazard Class 2 (hazard to waters)

### **15.2 Chemical safety assessment**

A Chemical Assessment has not been accomplished on this product.

## **16. OTHER INFORMATION**

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"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

### **16.1 Revision**

### **16.2 Key to the H-codes contained in section 3**

- H300 Fatal if swallowed
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects

## **1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY/UNDERTAKING**

---

### **1.1 Product identifier**

**Product** MolBoolean kit

### **1.2 Relevant identified users of the substance or mixture and users advised against**

**Intended used** Use as Laboratory reagent, Scientific research and development

**Uses advised against** Product is not recommended for any use other than the identified uses above

### **1.3 Details of the suppliers of the safety data sheet**

**Manufacturer/Supplier** Atlas Antibodies AB  
Voltavägen 13A  
SE-168 69 Bromma

**Telephone** +46 54 59 58 50

**Website** [www.atlasantibodies.com](http://www.atlasantibodies.com)

E-mail address: [support@atlasantibodies.com](mailto:support@atlasantibodies.com)

### **Emergency telephone number**

**In Emergency:** Phone local emergency number

## **2. HAZARDS IDENTIFICATION**

---

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

Classification according to the Regulation (EC) No 1272/2008

Not Classified

### **2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

Not Regulated

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Not Applicable

#### 3.2 Mixtures

A solution containing Dithiothreitol (DTT; 2,3-Butanediol,1,4-dimercapto-R'R')  
MolBoolean kit tubes: 7, 8, 11, 12, 13.

Component	CAS-No.	EINECS-No.	Weight percent	REACH registration number	Classification according to Regulation (EC) No 1272/2008 (CLP)
2,3-Butanediol, 1,4-dimercapto-, (R'R')- 3483-12-3 (1 - 5)	3483-12-3	222-468-7	1 - 5	-	Not classified

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

General notes

##### Following inhalation

Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

##### Following skin contact

Rinse with plenty of water. Immediate medical attention is not required.

##### Following eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### Following ingestion

Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

##### Self-protection of the first aider

Not needed

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

H316 – Causes mild skin irritation

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

None.

## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

Suitable Extinguishing Media: Water spray, carbon dioxide (CO<sub>2</sub>), Foam, Dry chemicals

Unsuitable Extinguishing Media: No information available

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

Not known

### 5.3 Advise for firefighters

Standard procedure for chemical fires

## 6. ACCIDENTAL RELEASE MEASURE

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

Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

### 6.2 Environmental precautions

Prevent product from entering drains.

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

Collect with inert absorbent material.

### 6.4 Reference to other sections

For waste disposal see section 13. For personal protection see section 8.

## 7. HANDLING AND STORAGE

---

### 7.1 Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

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

Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

### 7.3 Specific end use(s)

Use as laboratory reagent. Scientific research and development.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

---

### **8.1 Control parameters**

Does not contain substances with occupational exposure limits.

### **8.2 Exposure controls**

#### 8.2.1 Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice.

#### 8.2.2 Individual protection measures

- |                            |  |
|----------------------------|--|
| a) Eye/Face protection:    | If contact is likely use chemical safety goggles.  |
| b) Skin protection:        |  |
| I. Hand protection         | Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.  |
| II. Other                  | Not necessary  |
| c) Respiratory protection: | In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standard. |
| d) Thermal hazards:        | None.  |

#### 8.2.3 Environmental exposure controls

See section 6.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basis and chemical properties

a) Appearance	Colourless, Liquid
b) Odor	Odourless
c) Odor Threads hold	No data available
d) pH	No data available
e) Melting Point / Freezing Point	Mixture has not been tested
f) Initial Boiling Point and Boiling Range	Mixture has not been tested
g) Flash Point	Mixture has not been tested
h) Evaporation Rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/Lower Flammability or Explosive Limits	Mixture has not been tested
k) Vapor Pressure	Mixture has not been tested
l) Vapor Density	Mixture has not been tested
m) Relative Density	Mixture has not been tested
n) Solubility (ies)	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Autoignition Temperature	Mixture has not been tested
q) Decomposition Temperature	Mixture has not been tested
r) Viscosity	No data available
s) Explosive Properties	Mixture has not been tested
t) Oxidising Properties	Mixture has not been tested

### 9.2 Other information

No data available

## 10. STABILITY AND REACTIVE

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### 10.1 Reactivity

None known.

### 10.2 Chemical stability

Product is stable in normal conditions and use.

### 10.3 Possibility of hazardous reactions

No hazardous reactions has been reported.

### 10.4 Conditions to avoid

No information available.

### 10.5 Incompatible materials

No dangerous reactions known under conditions of normal use.

## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

Principal routes of exposure, potential health effects.

- |                                      |  |
|--------------------------------------|--|
| a) Skin Corrosion/irritation         | Conclusive but not sufficient for classification.  |
| b) Serious Eye Damage/irritation     | Conclusive but not sufficient for classification.  |
| c) Respiratory or Skin Sensitization | Conclusive but not sufficient for classification.  |
| d) Germ Cell Mutagenicity            | Conclusive but not sufficient for classification.  |
| e) Carcinogenicity                   | Conclusive but not sufficient for classification.  |
| f) Reproductive Toxicity             | Conclusive but not sufficient for classification.. |
| g) STOT-single exposure              | Conclusive but not sufficient for classification.. |
| h) STOT-repeated exposure            | Conclusive but not sufficient for classification.  |
| Aspiration Hazard                    | Conclusive but not sufficient for classification.  |

## 12. ECOLOGICAL INFORMATION

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### 12.1 Toxicity

The environmental impact of this product has not been fully investigated.

#### Toxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	No data available	No data available	No data available	No data available	No data 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-vPvB assessment

This product does not contain any substance that are assessed to be PBT or a vPvB.

**12.6 Other adverse effect**

None

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Waste disposal according to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing and to national and local regulations.

Regulatory disposal information, proposal for European Waste Code: 16 05 07 discarded inorganic chemicals consisting of or containing hazardous substances.

**14. TRANSPORT INFORMATION**

---

Not regulated for Land Transport (ADR/RID), for Sea Transport (IMDG) or for Air Transport (IATA).

**14.1 UN-Number**

Not applicable

**14.2 UN Proper Shipping Name**

Not applicable

**14.3 Transport Hazard Class(es)**

Not applicable

**14.4 Packaging Group**

Not applicable

**14.5 Environmental Hazards**

Not applicable

**14.6 Special Precaution for users**

None

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

Not classified according to Annex II.



## **15. REGULATORY INFORMATION**

---

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

Water Hazard Classes (Germany): Hazard Class 2 (hazard to waters)

### **15.2 Chemical safety assessment**

A Chemical Assessment has not been accomplished on this product.

## **16. OTHER INFORMATION**

---

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

### **16.1 Revision**