

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 25.08.2011

Version 7.0

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

### 1.1 Product identifier

Catalogue No.	804605
Product name	Hydrazinium monobromide for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

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

Carcinogenicity, Category 1B, H350  
Acute toxicity, Category 3, Inhalation, H331  
Acute toxicity, Category 3, Dermal, H311  
Acute toxicity, Category 3, Oral, H301  
Skin sensitization, Category 1, H317  
Acute aquatic toxicity, Category 1, H400  
Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### Classification (67/548/EEC or 1999/45/EC)

Carc.Cat.2	Carcinogenic Category 2	R45
T	Toxic	R23/24/25
		R43
N	Dangerous for the environment	R50/53

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

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## 2.2 Label elements

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

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H350 May cause cancer.  
H331 Toxic if inhaled.  
H311 Toxic in contact with skin.  
H301 Toxic if swallowed.  
H317 May cause an allergic skin reaction.  
H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P201 Obtain special instructions before use.  
P280 Wear protective gloves/ protective clothing.  
P273 Avoid release to the environment.  
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.  
P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Restricted to professional users.

### Reduced labelling ( $\leq 125$ ml)

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H350 May cause cancer.  
H331 Toxic if inhaled.  
H311 Toxic in contact with skin.  
H301 Toxic if swallowed.  
H317 May cause an allergic skin reaction.

#### Precautionary statements

P201 Obtain special instructions before use.  
P280 Wear protective gloves/ protective clothing.  
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.  
P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.



Restricted to professional users.

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Index-No. 007-014-00-6

**Labelling (67/548/EEC or 1999/45/EC)**



Symbol(s)	 T	Toxic
	 N	Dangerous for the environment
R-phrases(s)	45-23/24/25-43-50/53	May cause cancer. Also toxic by inhalation, in contact with skin and if swallowed. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	53-45-60-61	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Further information  
For professional users only.

EC-No. 237-412-7

**EC Label**

**Reduced labelling (≤125 ml)**

Symbol(s)	 T	Toxic
	 N	Dangerous for the environment
R-phrases(s)	45-23/24/25-43	May cause cancer. Also toxic by inhalation, in contact with skin and if swallowed. May cause sensitization by skin contact.
S-phrases(s)	53-45	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**2.3 Other hazards**

None known.

**SECTION 3. Composition/information on ingredients**

Formula	NH <sub>2</sub> NH <sub>3</sub> Br	H <sub>5</sub> BrN <sub>2</sub> (Hill)
CAS-No.	13775-80-9	
Index-No.	007-014-00-6	
EC-No.	237-412-7	
Molar mass	112,96 g/mol	

**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

After skin contact: wash off with plenty of water. Swab with polyethylene glycol 400. Immediately remove contaminated clothing. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

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If swallowed: give water to drink (two glasses at most). Seek medical advice 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**

irritant effects, Allergic reactions, Cough, Shortness of breath, gastric pain, Dizziness, Diarrhoea, Nausea, Vomiting, Convulsions, muscle twitching, CNS disorders

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

No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible material

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

hydrogen bromide, nitrogen oxides

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7.2 and 10.5).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**6.4 Reference to other sections**

Indications about waste treatment see section 13.

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**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

Work under hood. Do not inhale substance.

Observe label precautions.

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

Dry. Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Store at +15°C to +25°C.

**7.3 Specific end uses**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

**8.2 Exposure controls**

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. Work under hood. Do not inhale substance.

*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

*Other protective equipment*  
protective clothing

*Respiratory protection*  
required when dusts are generated.  
Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances  
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 empty into drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	crystals
Colour	colourless
Odour	odourless
Odour Threshold	not applicable
pH	4 - 5 at 100 g/l 20 °C
Melting point	85 °C
Boiling point/boiling range	170 °C decomposes
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Relative density	No information available.

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Water solubility	3.260 g/l at 25 °C
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified als explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

The following applies in general to flammable organic substances and preparations: 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

Oxidizing agents, Bases

Violent reactions possible with:

### 10.4 Conditions to avoid

Strong heating (decomposition).

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

in the event of fire: See chapter 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

Symptoms: Nausea, Vomiting, Diarrhoea, gastric pain, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.  
absorption

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract.  
absorption

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*Acute dermal toxicity*  
absorption

*Skin irritation*  
slight irritation

*Eye irritation*  
slight irritation

*Sensitisation*  
May cause sensitization by skin contact.  
May cause an allergic skin reaction.

*Carcinogenicity*  
Carcinogenic in animal experiments.

*CMR effects*  
Carcinogenicity:  
May cause cancer. Animal experiments carried out under conditions comparable with the workplace situation have shown the substance to be carcinogenic.

*Specific target organ toxicity - single exposure*  
The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ toxicity - repeated exposure*  
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*  
Based on available data the classification criteria are not met.

#### 11.2 Further information

Quantitative data on the toxicity of this product are not available.  
Systemic effects:  
After uptake of large quantities:  
rise in blood pressure, Dizziness, muscle twitching, Convulsions, CNS disorders  
Damage to:  
Liver, Kidney, Lungs  
Further data:  
Handle in accordance with good industrial hygiene and safety practice.

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## 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

*Additional ecological information*

We have no quantitative data concerning the ecological effects of this product.

Biological effects:

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.



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Further information on ecology  
Discharge into the environment must be avoided.

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### SECTION 13. Disposal considerations

#### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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### SECTION 14. Transport information

#### **ADR/RID**

UN 3288 TOXIC SOLID, INORGANIC, N.O.S. (HYDRAZINIUMMONOBROMIDE), 6.1, III  
Environmentally hazardous yes

#### **IATA**

UN 3288 TOXIC SOLID, INORGANIC, N.O.S. (HYDRAZINIUMMONOBROMIDE), 6.1, III  
Environmentally hazardous yes

#### **IMDG**

UN 3288 TOXIC SOLID, INORGANIC, N.O.S. (HYDRAZINIUMMONOBROMIDE), 6.1, III  
EmS F-A S-A  
Marine pollutant yes

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

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### SECTION 15. Regulatory information

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

##### *EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Toxic  
2  
Quantity 1: 50 t  
Quantity 2: 200 t

96/82/EC  
Dangerous for the environment  
9a  
Quantity 1: 100 t  
Quantity 2: 200 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

##### *National legislation*

**||** Storage class 6.1 C

#### **15.2 Chemical Safety Assessment**

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

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**SECTION 16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Full text of R-phrases referred to under sections 2 and 3**

R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R43	May cause sensitization by skin contact.
R45	May cause cancer.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Training advice**

Provide adequate information, instruction and training for operators.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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