

**Safety Data Sheet**

according to UK REACH Regulation

**Norbinaltorphimine dihydrochloride**

Revision date: 27.05.2022

Product code: 4500

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Norbinaltorphimine dihydrochloride

**Further trade names**

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, hydrochloride (1:2), (4bS,8R,8aS,10aS,11R,14aS,19aR,20bR)-;

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, dihydrochloride, [8R-(4bS\*,8a,8aß,10aa,11ß,14aS\*,19aa,20bß)]-;

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, dihydrochloride, (4bS,8R,8aS,10aS,11R,14aS,19aR,20bR)-

**Synonyms:**

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, (4bS,8R,8aS,10aS,11R,14aS,19aR,20bR), dihydrochloride salt; NorBNI; N-Desmethylbinaltorphimine; N-Desmethylbinaltorphimine dihydrochloride

CAS No: 113158-34-2

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Highly selective kappa opioid receptor antagonist

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

Company name:	ABX advanced biochemical compounds Biomedizinische Forschungsreagenzien GmbH	
Street:	Heinrich-Gläser-Straße 10-14	
Place:	01454 Radeberg	
Telephone:	+49 3528 4041 60	Telefax: +49 3528 4041 65
e-mail:	info@abx.de	
Contact person:	Dr. Christoph Meyer	Telephone: +49 3528 4041 8732
e-mail:	meyer@abx.de	
Internet:	http://www.abx.de	

**1.4. Emergency telephone number:**

+49 3528 4041 60

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

This substance is not classified as hazardous in accordance with GB CLP Regulation.

**2.2. Label elements****GB CLP Regulation****Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

**2.3. Other hazards**

Warning - substance not yet tested completely.

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

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**3.1. Substances****Chemical characterization**

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, hydrochloride (1:2), (4bS,8R,8aS,10aS,11R,14aS,19aR,20bR)-;

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, dihydrochloride, [8R-(4bS\*,8a,8aβ,10aa,11β,14aS\*,19aa,20bβ)]-;

4,8:11,15-Dimethano-20H-bisbenzofuro[2,3-a:3',2'-i]dipyrido[4,3-b:3',4'-h]carbazole-1,8a,10a,18-tetrol, 7,12-bis(cyclopropylmethyl)-5,6,7,8,9,10,11,12,13,14,19a,20b-dodecahydro-, dihydrochloride, (4bS,8R,8aS,10aS,11R,14aS,19aR,20bR)-

Sum formula: C<sub>40</sub>H<sub>43</sub>N<sub>3</sub>O<sub>6</sub> x 2 HCl

Molecular weight: 734.71

**Hazardous components**

none (according to UK REACH Regulation)

**SECTION 4: First aid measures****4.1. Description of first aid measures****After inhalation**

Provide fresh air.

**After contact with skin**

After contact with skin, wash immediately with: Water. Change contaminated clothing.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Co-ordinate fire-fighting measures to the fire surroundings. Suitable extinguishing media: Foam. Extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Atomized water.**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

**SECTION 6: Accidental release measures****6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage**

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**7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe dust. Conditions to avoid: skin contact. Eye contact. Wear personal protection equipment.  
When using do not eat, drink, smoke, sniff.

**Advice on general occupational hygiene**

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container dry. Keep container tightly closed.

**Further information on storage conditions**

Recommended storage temperature:

of °C: - 25

up to °C: - 15

Protect against: Light.

Store under (Gas): argon. Nitrogen.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	brown

**Changes in the physical state**

Water solubility:	easily soluble.
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**Solubility in other solvents**

dimethylsulphoxide (DMSO).

**SECTION 10: Stability and reactivity****10.4. Conditions to avoid**

Light.

**10.6. Hazardous decomposition products**

Carbon dioxide. Carbon monoxide. Nitrogen oxides (NOx)., Hydrochloric gas.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Further information**

Toxicological data are not available.

**SECTION 12: Ecological information****12.5. Results of PBT and vPvB assessment**

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This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled.

**SECTION 14: Transport information****Other applicable information**

Not a hazardous material with respect to these transportation regulations.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water hazard class (D): 3 - highly hazardous to water

**SECTION 16: Other information**