

# SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878



## BCR-306: 1-nitronaphthalene

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

#### 1.1. Product identifier

**Product name** : BCR-306: 1-nitronaphthalene  
**Registration number REACH** : The substance does not require registration according to REACH because of tonnageband <1 t/y.  
**Product type REACH** : Substance/mono-constituent  
**CAS number** : 86-57-7  
**EC number** : 201-684-5  
**Molecular mass** : 173.17 g/mol  
**Formula** : C10H7NO2

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

##### 1.2.1 Relevant identified uses

Certified reference material for laboratory use only

##### 1.2.2 Uses advised against

No uses advised against known

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

##### Supplier of the safety data sheet

European Commission  
Directorate General Joint Research Centre  
Directorate F - Health, Consumers and Reference Materials  
Reference Material Unit  
Retieseweg 111  
2440 Geel Belgium  
☎ +32 14 57 12 11  
☎ +32 14 59 04 06  
jrc-rm-distribution@ec.europa.eu

#### 1.4. Emergency telephone number

Poison Centre :  
+32 70 245 245

### SECTION 2: Hazards identification

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

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Carc.	category 2	H351: Suspected of causing cancer.
Acute Tox.	category 3	H301: Toxic if swallowed.
Skin Irrit.	category 2	H315: Causes skin irritation.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H335: May cause respiratory irritation.
Aquatic Chronic	category 2	H411: Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements



**Signal word**

Danger

##### H-statements

H351 Suspected of causing cancer.  
H301 Toxic if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H411 Toxic to aquatic life with long lasting effects.

##### P-statements

P280 Wear protective gloves, protective clothing and eye protection/face protection.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P330 Rinse mouth.  
P308 + P313 IF exposed or concerned: Get medical advice/attention.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

## 2.3. Other hazards

No other hazards known

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
1-nitronaphthalene	86-57-7 201-684-5	C>99 %	Carc. 2; H351 Acute Tox. 3; H301 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Chronic 2; H411	(1)	Mono-constituent	

(1) For H- and EUH-statements in full: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

#### After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

#### After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

#### After eye contact:

Rinse immediately with (lukewarm) water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

#### After ingestion:

Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

#### 4.2.1 Acute symptoms

##### After inhalation:

AFTER INHALATION OF DUST: Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

##### After skin contact:

Tingling/irritation of the skin.

##### After eye contact:

Irritation of the eye tissue.

##### After ingestion:

AFTER INGESTION OF HIGH QUANTITIES: Methemoglobinemia. Blue/grey discolouration of the skin. Enlargement/affection of the liver. Affection of the renal tissue.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### 5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Class A foam extinguisher, Water (quick-acting extinguisher, reel).

Major fire: Water, Class A foam.

#### 5.1.2 Unsuitable extinguishing media:

Small fire: Quick-acting BC powder extinguisher, Quick-acting CO2 extinguisher.

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

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

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## 5.3. Advice for firefighters

### 5.3.1 Instructions:

Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

### 5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

## SECTION 6: Accidental release measures

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

Prevent dust cloud formation. No naked flames.

#### 6.1.1 Protective equipment for non-emergency personnel

See section 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

### 6.2. Environmental precautions

Contain released product. Dam up the solid spill. Prevent soil and water pollution. Prevent spreading in sewers.

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

Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 6.4. Reference to other sections

See section 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1. Precautions for safe handling

Avoid raising dust. Keep away from naked flames/heat. Gas/vapour heavier than air at 20°C. Observe strict hygiene. Keep container tightly closed. Do not discharge the waste into the drain.

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

#### 7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a dry area. Keep container in a well-ventilated place.

#### 7.2.2 Keep away from:

Heat sources, ignition sources, reducing agents.

#### 7.2.3 Suitable packaging material:

Glass.

#### 7.2.4 Non suitable packaging material:

No data available

### 7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

##### b) National biological limit values

If limit values are applicable and available these will be listed below.

#### USA (BEI-ACGIH)

Methemoglobin inducers (Methemoglobin)	Blood: during or end of shift	5 % of hemoglobin	Background, Nonspecific
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#### 8.1.2 Sampling methods

If applicable and available it will be listed below.

#### 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

#### 8.1.4 Threshold values

If applicable and available it will be listed below.

#### 8.1.5 Control banding

If applicable and available it will be listed below.

### 8.2. Exposure controls

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The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

## 8.2.1 Appropriate engineering controls

Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

## 8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Do not eat, drink or smoke during work.

### a) Respiratory protection:

Respiratory protection not required in normal conditions. Dust production: dust mask with filter type P2.

### b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
butyl rubber	> 480 minutes	0.5 mm	Class 6	
fluor rubber	> 480 minutes	0.4 mm	Class 6	

### c) Eye protection:

Safety glasses (EN 166).

### d) Skin protection:

Protective clothing (EN 14605 or EN 13034).

## 8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

Physical form	Crystalline solid Needles
Odour	Odourless
Odour threshold	No data available in the literature
Colour	Yellow
Particle size	No data available in the literature
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	3.19 ; Experimental value
Dynamic viscosity	Not applicable (solid)
Kinematic viscosity	Not applicable (solid)
Melting point	61 °C
Boiling point	304 °C
Relative vapour density	5.96
Vapour pressure	No data available in the literature
Solubility	Water ; 0.002 g/100 ml ; 20 °C Ethanol ; soluble Ether ; soluble Chloroform ; soluble Carbon disulfide ; soluble Pyridine ; soluble
Relative density	1.31 ; 20 °C
Absolute density	1310 kg/m <sup>3</sup> ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	450 °C
Flash point	164 °C
pH	No data available in the literature

### 9.2. Other information

Evaporation rate	Not applicable (solid)
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Temperature above flashpoint: higher fire/explosion hazard.

### 10.2. Chemical stability

No data available.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

#### Precautionary measures

Avoid raising dust. Keep away from naked flames/heat.

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## 10.5. Incompatible materials

Reducing agents.

## 10.6. Hazardous decomposition products

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

## SECTION 11: Toxicological information

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

#### 11.1.1 Test results

##### Acute toxicity

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral			category 3			Literature study	
Dermal	LD50		> 2000 mg/kg		Rat		

##### Conclusion

Toxic if swallowed.

Not classified as acute toxic in contact with skin

Not classified as acute toxic if inhaled

##### Corrosion/irritation

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Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating; category 2					Literature study	
Skin	Irritating; category 2					Literature study	
Inhalation (dust)	Irritating; STOT SE cat.3					Literature study	

##### Conclusion

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

##### Respiratory or skin sensitisation

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No (test)data available

##### Conclusion

Not classified as sensitizing for inhalation

Not classified as sensitizing for skin

##### Specific target organ toxicity

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No (test)data available

##### Conclusion

Not classified for subchronic toxicity

##### Mutagenicity (in vitro)

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No (test)data available

##### Mutagenicity (in vivo)

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No (test)data available

##### Conclusion

Not classified for mutagenic or genotoxic toxicity

##### Carcinogenicity

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown			category 2					Literature study

##### Conclusion

Suspected of causing cancer.

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## Reproductive toxicity

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No (test) data available

### Conclusion

Not classified for reprotoxic or developmental toxicity

## Toxicity other effects

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No (test) data available

## Chronic effects from short and long-term exposure

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Blue/grey discolouration of the skin. Change in the haemogramme/blood composition.

## 11.2. Information on other hazards

No evidence of endocrine disrupting properties

## SECTION 12: Ecological information

### 12.1. Toxicity

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	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		2.0 mg/l - 4.0 mg/l	96 h	Pimephales promelas			Literature study
Toxicity aquatic micro-organisms	EC50		16 mg/l	96 h	Bacteria			Literature study
	EC50	OECD 209	380 mg/l	49 h	Activated sludge			Literature study

### Conclusion

Toxic to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

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#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301D	30 %	20 day(s)	Experimental value

### Conclusion

#### Water

Not readily biodegradable in water

### 12.3. Bioaccumulative potential

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#### Log Kow

Method	Remark	Value	Temperature	Value determination
		3.19		Experimental value

### Conclusion

Low potential for bioaccumulation (Log Kow < 4)

### 12.4. Mobility in soil

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#### (log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	3.389	Calculated value

### Conclusion

Low potential for mobility in soil

### 12.5. Results of PBT and vPvB assessment

Substance does not meet the criteria of PBT, nor the criteria of vPvB according to Annex XIII of Regulation (EC) No 1907/2006, so is neither PBT nor vPvB.

### 12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

### 12.7. Other adverse effects

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## Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

## Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1. Waste treatment methods

#### 13.1.1 Provisions relating to waste

##### European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

16 05 06\* (gases in pressure containers and discarded chemicals: laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals). Depending on branch of industry and production process, also other waste codes may be applicable.

#### 13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

#### 13.1.3 Packaging/Container

##### European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10\* (packaging containing residues of or contaminated by dangerous substances).

## SECTION 14: Transport information

### Road (ADR)

#### 14.1. UN number

UN number	2538
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#### 14.2. UN proper shipping name

Proper shipping name	nitronaphthalene
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#### 14.3. Transport hazard class(es)

Hazard identification number	40
Class	4.1
Classification code	F1

#### 14.4. Packing group

Packing group	III
Labels	4.1

#### 14.5. Environmental hazards

Environmentally hazardous substance mark	yes
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#### 14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

### Rail (RID)

#### 14.1. UN number

UN number	2538
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#### 14.2. UN proper shipping name

Proper shipping name	nitronaphthalene
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#### 14.3. Transport hazard class(es)

Hazard identification number	40
Class	4.1
Classification code	F1

#### 14.4. Packing group

Packing group	III
Labels	4.1

#### 14.5. Environmental hazards

Environmentally hazardous substance mark	yes
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#### 14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

### Inland waterways (ADN)

#### 14.1. UN number

UN number	2538
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14.2. UN proper shipping name	
Proper shipping name	nitronaphthalene
14.3. Transport hazard class(es)	
Class	4.1
Classification code	F1
14.4. Packing group	
Packing group	III
Labels	4.1
14.5. Environmental hazards	
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

## Sea (IMDG/IMSBC)

14.1. UN number	
UN number	2538
14.2. UN proper shipping name	
Proper shipping name	nitronaphthalene
14.3. Transport hazard class(es)	
Class	4.1
14.4. Packing group	
Packing group	III
Labels	4.1
14.5. Environmental hazards	
Marine pollutant	P
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable

## Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	2538
14.2. UN proper shipping name	
Proper shipping name	nitronaphthalene
14.3. Transport hazard class(es)	
Class	4.1
14.4. Packing group	
Packing group	III
Labels	4.1
14.5. Environmental hazards	
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	10 kg

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
0 %	

#### National legislation Belgium

No data available

#### National legislation The Netherlands

Waterbezwaarlijkheid	A (2); Algemene Beoordelingsmethodiek (ABM)
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#### National legislation France

No data available

#### National legislation Germany

Lagerklasse (TRGS510)	4.1B: Entzündbare feste Gefahrstoffe
WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

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## National legislation Austria

Krebserzeugend	1-Nitronaphthalin; III B
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## National legislation United Kingdom

No data available

## Other relevant data

IARC - classification	3; 1-nitronaphthalene
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## 15.2. Chemical safety assessment

No chemical safety assessment is required.

## SECTION 16: Other information

### Full text of any H- and EUH-statements referred to under section 3:

H301 Toxic if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
H411 Toxic to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ERC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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