

Safety data sheet according to 1907/2006/EC, Article 31

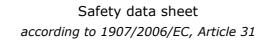
292100

Revision: 12.05.2011 Printing date: 07.07.2016

•	Product identifier	
	Trade name:	
	Boc-Orn(2-chloro-Z)-OH	
•	Article number:	
	new: 4030392 old: A-4020	
•	CAS Number:	
	118554-00-0	
•	Relevant identified uses of the substance or mixture and uses advised against	
•	Application of the substance / the preparation Laboratory chemicals	
•	Details of the supplier of the safety data sheet	
•	Manufacturer/Supplier:	
	Bachem AG	
	Hauptstrasse 144 CH-4416 Bubendorf	
	Switzerland	
	E-mail msds@bachem.com	
	Tel +41 58 595 2021	
	Fax +41 58 595 2040	
•	Further information obtainable from:	
	Department: Marketing	
•	Emergency telephone number:	
	+41 44 251 51 51 (Tox Info Suisse)	
2	Hazards identification	
•	Classification of the substance or mixture	
•	Classification according to Regulation (EC) No 1272/2008	
	Void	
	Label elements Labelling according to Regulation (EC) No 1272/2008	
-	Void	
•	Signal word	
	Void	
•	Hazard statements	
	Void Other hazards	
	Results of PBT and vPvB assessment	
	PBT:	
	Not applicable.	
•	vPvB:	
	Not applicable.	

- CAS No.
- *Description* Boc-Orn(2-chloro-Z)-OH 118554-00-0
- Identification number(s)
- · EINECS Number:
- RTECS Number:
- GB





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PRODUCT : Boc-Orn(2-chloro-Z)-OH (Contd. of page 1) 04 First aid measures · General information: No special measures required. · After inhalation: Supply fresh air; consult doctor in case of complaints. After skin contact: Immediately wash with water and soap and rinse thoroughly. · After eye contact: Rinse opened eye for several minutes under running water. · After swallowing: Call a doctor immediately. Information for doctor: · Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available. 05 Firefighting measures · Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture No further relevant information available. Advice for firefighters Protective equipment: No special measures required.

06 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
 Not required.
- Environmental precautions:
 - No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.

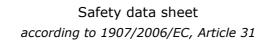
07 Handling and storage

- Handling:
- Precautions for safe handling Prevent formation of dust.
- Information about fire and explosion protection:
- No special measures required.
- Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions:
- Store in dry conditions.
- Recommended storage temperature: -20 +/- 5 °C
- Specific end use(s)
- No further relevant information available.

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(Contd. on page 3)





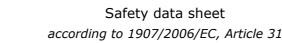
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	OH (Control of normal)		
8 Exposure controls/personal	(Contd. of page 2)		
 Ingredients with limit values that rec 	·		
Not required.	une monitoring at the workplace.		
Additional information:			
The lists valid during the making were us	sed as basis.		
Personal protective equipment:			
General protective and hygienic me The usual precautionary measures are to	asures: to be adhered to when handling chemicals.		
 Respiratory protection: 			
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained			
respiratory protective device.			
 Use suitable respiratory protective devic Protection of hands: 	ce in case of insufficient ventilation.		
	ble and resistant to the product/ the substance/ the preparation.		
	n to the glove material can be given for the product/ the preparation/ the chemical mixture.		
-	leration of the penetration times, rates of diffusion and the degradation		
Protective glovesMaterial of gloves			
	s not only depend on the material, but also on further marks of quality and varies from		
manufacturer to manufacturer.	· · · · · · · · · · · · · · · · · · ·		
Penetration time of glove material			
	found out by the manufacturer of the protective gloves and has to be observed.		
 Eye protection: Safety glasses 			
Salely glasses			
9 Physical and chemical prope General Information	erties		
General Information Appearance:			
General Information Appearance: Form:	Powder		
General Information Appearance: Form: Colour:	Powder White		
General Information Appearance: Form: Colour: Odour:	Powder White Nearly odourless		
General Information Appearance: Form: Colour: Odour: Odour threshold:	Powder White Nearly odourless Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight	Powder White Nearly odourless		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition	Powder W hite Nearly odourless Not determined. 400,8600 g/mol		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Boiling range:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Boiling range: Flash point:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 ℃ Undetermined. Not applicable.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Boiling range: Flash point: Flammability (solid, gaseous):	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Boiling range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 ℃ Undetermined. Not applicable.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Boiling range: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		
General Information Appearance: Form: Colour:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not applicable. Not determined. Not determined. Not determined. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower: Upper:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not applicable. Not determined. Not determined. Not determined. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Boiling point/Boiling range: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapour pressure:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapour pressure: Density:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapour pressure: Density: Solubility in / Miscibility with	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		
General Information Appearance: Form: Colour: Odour: Odour threshold: Molecular Weight Change in condition Melting point/Melting range: Boiling point/Melting range: Flash point: Flammability (solid, gaseous): Ignition temperature: Decomposition temperature: Self-igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapour pressure: Density: Solubility in / Miscibility with water:	Powder White Nearly odourless Not determined. 400,8600 g/mol 121 °C Undetermined. Not applicable. Not applicable. Not determined. Not determined.		

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PRODUCT : Boc-Orn(2-chloro-Z)-OH

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid
- No further relevant information available.
- Incompatible materials:
- No further relevant information available.
- Dangerous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Acute toxicity: No further relevant information available.
- · Primary irritant effect:
- · on the skin:
- No further relevant information available.
- on the eye:
- No further relevant information available. Sensitization:
- No sensitizing effects known.
- Additional toxicological information:
- The substance is not subject to classification according to the latest version of the EU lists.

12 Ecological information

- Acquatic toxicity:
- No further relevant information available.
- Persistence and degradability
- No further relevant information available.
- Behaviour in environmental systems:
 Bioaccumulative potential
- No further relevant information available.
- Mobility in soil
- No further relevant information available.
- Additional ecological information:
- General notes: Not known to be hazardous to water.
- Results of PBT and vPvB assessment
- PBT:
- Not applicable.
- vPvB:
- Not applicable.
- Other adverse effects
- No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- Waste disposal key: 18 02 06
- Uncleaned packaging:
- Recommendation:
 - Disposal must be made according to official regulations



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PRODUCT	Boc-Orn(2-chloro-Z)-OH
14 T	(Contd. of page 4)
14 Transp	ort information
ADR/RID	:lass: -
IMDG Cl	δ: -
ICAO/IA1	A Class:
 Enviror 	nental hazards:
Not app	
•	rt in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not app	able.
L5 Regula	ory information
Chemi	al safety assessment:
	al Safety Assessment has not been carried out.
16 Other	nformation
This inform	tion is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features
and shall n	t establish a legally valid contractual relationship.
Denert	
•	ient issuing MSDS: ent: Marketing
•	ations and acronyms:
	cord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International
	of Dangerous Goods by Road)
	lement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the
	nal Transport of Dangerous Goods by Rail)
	ernational Maritime Code for Dangerous Goods ernational Air Transport Association
	ernational Civil Aviation Organisation
	European Inventory of Existing Commercial Chemical Substances
CAS: C	emical Abstracts Service (division of the American Chemical Society)

- RTECS: Registry of Toxic Effects of Chemical Substances
- * Data compared to the previous version altered.