

# SAFETY DATA SHEET

## BIOMATE MBC2881

### 1. Chemical product and company identification

**Product name** BIOMATE MBC2881

**Synonyms** Not available.

#### Recommended use and Limitations on use

**Recommended use** Biocide

**Issue date** Jan-19-2011

**Revision date** 16/01/2018

**Supersedes date** 29/11/2017

#### Company/undertaking identification

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#### Emergency telephone

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### 2. Hazards identification

#### Emergency overview

May be corrosive to metals. Causes serious eye damage. Harmful if inhaled. Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Prolonged exposure may cause chronic effects. Dangerous for the environment if discharged into watercourses.

#### Hazard categories

<b>Physical hazards</b>	Corrosive to metals	Category 1
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2

#### Label elements

##### Pictograms



##### Signal word

Danger

##### Hazard statement

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H401	Toxic to aquatic life.

# SAFETY DATA SHEET

## BIOMATE MBC2881

### Precautionary statement

#### Prevention

P234	Keep only in original container.
P261	Avoid breathing mist or vapor.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.
P280	Wear protective gloves.

#### Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.

#### Storage

P406	Store in corrosive resistant container with a resistant inner liner.
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#### Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Physical and chemical hazards** May be corrosive to metals.

**Health hazards** Harmful if inhaled. Harmful if swallowed. Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction.

**Environmental hazards** Toxic to aquatic life.

**Supplemental information** None.

### 3. Composition/information on ingredients

**Substance/mixture** Mixtures

Chemical name	Concentration (%)	CAS Number
2,2-dibromo-3-nitrilopropionamide	10 - 30	10222-01-2
Sodium bromide	<= 10	7647-15-6

### 4. First aid measures

<b>Inhalation</b>	Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash contaminated clothing before reuse. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
<b>Eye contact</b>	URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention. Rinse with water.
<b>Ingestion</b>	If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.
<b>Most important symptoms and health effects</b>	Causes serious eye damage. Permanent eye damage including blindness could result. May cause redness and pain. Rash. Dermatitis. May cause an allergic skin reaction.
<b>Expected acute symptoms and delayed symptoms</b>	Causes serious eye damage. Permanent eye damage including blindness could result. May cause redness and pain. Rash. Dermatitis. May cause an allergic skin reaction.
<b>Personal protection for first-aid responders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
<b>Notes to physician</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

# SAFETY DATA SHEET

## BIOMATE MBC2881

### 5. Fire-fighting measures

<b>Extinguishing media</b>	Foam. Powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Extinguishing media to avoid</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards</b>	During fire, gases hazardous to health may be formed.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Protection of fire-fighters</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

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

<b>For non-emergency personnel</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid breathing mist. Do not touch or walk through spilled material.
<b>For emergency responders</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

<b>Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
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<b>Clean-up methods and materials and containment measures</b>	Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.
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Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

<b>Recovery and neutralization</b>	Not available.
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<b>Prevention of secondary hazards</b>	Not available.
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### 7. Handling and storage

<b>Handling</b>	Do not get this material in contact with eyes. Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
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<b>Storage</b>	Store in a well-ventilated place. Store in corrosive resistant container with a resistant inner liner. Store away from incompatible materials (see Section 10 of the SDS). Store in original tightly closed container.
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### 8. Exposure controls/personal protection

#### Exposure limits

No exposure limits noted for ingredient(s).

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
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<b>Monitoring methods</b>	Follow standard monitoring procedures.
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<b>Engineering measures</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.
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# SAFETY DATA SHEET

## BIOMATE MBC2881

### Personal protective equipment

<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hand protection</b>	For prolonged or repeated skin contact use suitable protective gloves.
<b>Eye protection</b>	Face shield is recommended. Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

### Hygiene measures

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

<b>Appearance</b>	Liquid
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Yellow to amber
<b>Odor</b>	Slight
<b>pH (concentrated product)</b>	1.9 Neat
<b>pH in aqueous solution</b>	3.3 (5% Solution)
<b>Melting point/freezing point</b>	-18 °C
<b>Boiling point, initial boiling point, and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	< 0.1 mmHg
<b>Vapor pressure temp.</b>	21 °C
<b>Vapor density</b>	> 1
<b>Relative density</b>	1.27
<b>Relative density temperature</b>	21 °C
<b>Density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	100 %
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Evaporation rate</b>	Slower than Ether
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Other data</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Pour point</b>	-15 °C
<b>Specific gravity</b>	1.269
<b>Viscosity</b>	64 mPa.s
<b>Viscosity temperature</b>	21 °C
<b>VOC (Weight %)</b>	0 % CALCULATED

# SAFETY DATA SHEET

## BIOMATE MBC2881

### 10. Stability and reactivity

<b>Reactivity</b>	May be corrosive to metals.
<b>Stability</b>	Not available.
<b>Possibility of hazardous reactions</b>	Not available.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents. Metals.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

### 11. Toxicological information

**Acute toxicity** Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
BIOMATE MBC2881 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Inhalation</i>		
LC50	Rat	1.3 mg/l, 4 hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	510 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
2,2-dibromo-3-nitrilopropionamide (CAS 10222-01-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	0.32 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	206 mg/kg
Sodium bromide (CAS 7647-15-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	4200 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Routes of exposure</b>	Inhalation. Ingestion. Skin contact. Eye contact.
<b>Symptoms</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer. This product is not expected to cause respiratory sensitization.
<b>Skin sensitizer</b>	May cause an allergic skin reaction.

# SAFETY DATA SHEET

## BIOMATE MBC2881

<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure.
<b>Toxic to reproduction</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity following single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity following repeated exposure</b>	Not available.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects.

## 12. Ecological information

### Ecotoxicological data

Product	Species	Test Results
BIOMATE MBC2881 (CAS Mixture)		
<b>Aquatic</b>		
Algae	ErC50	1.5 mg/l, Growth Inhibition, 72 hours
Crustacea	EC50	2.5 mg/l, Static Acute Bioassay, 48 hours
Fish	LC50	3.6 mg/l, Static Acute Bioassay, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### Bioaccumulation

#### Bioaccumulative potential

##### Bioconcentration factor

2,2-dibromo-3-nitrilopropionamide 13 Estimated  
Species: Fish

##### Octanol/water partition coefficient log Kow

2,2-dibromo-3-nitrilopropionamide 0.79

**Mobility in soil** No data available for this product.

**Other hazardous effects** Nutrients: N= 53,2 mg/g

**Environmental fate** Toxic to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### Persistence and degradability

78 % degradation in 28 days  
CO2 Evolution (Modified Sturm Test) (OECD 301B)  
(Refers to active component: 2,2-dibromo-3-nitrilopropionamide)

- COD (mgO2/g)	959
- BOD 5 (mgO2/g)	0 (calculated data)
- BOD 28 (mgO2/g)	0 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	0
- Zahn-Wellens Test (% Degradation in 28 days)	0
- TOC (mg C/g)	732
- CO2 evolution (modified Sturm test)	78

# SAFETY DATA SHEET

## BIOMATE MBC2881

### 13. Disposal considerations

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Local disposal regulations</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

### 14. Transport information

#### CNDG

<b>UN number</b>	UN3265
<b>UN proper shipping name</b>	Corrosive liquid, acidic, organic, n.o.s. (2,2-dibromo-3-nitrilopropionamide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>International regulations</b>	If detailed packaging information is needed, please contact your GE Water & Process Technologies representative or customer service

#### IATA

<b>UN number</b>	UN3265
<b>UN proper shipping name</b>	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	153
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	UN3265
<b>UN proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

CNDG; IATA; IMDG



# SAFETY DATA SHEET

## BIOMATE MBC2881

### 15. Regulatory information

#### Inventory of Existing Chemical Substances in China

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

#### Applicable regulations

OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Part 1, Chemical Hazardous Agents  
Law of the Peoples Republic of China on prevention of environmental pollution caused by solid waste  
Provisions on the Environmental Administration of New Chemical substances  
Rule of safety use the chemicals in workplace  
List of Dangerous Goods  
Classification and Labeling of Dangerous Chemical Substances Commonly Used  
Safety Administration Regulations of the Hazardous Chemicals  
National Catalogue of Hazardous Waste  
Dangerous Chemical Products This safety data sheet conforms to the following laws, regulations and standards:  
Regulations on the Control over Safety of Dangerous Chemicals  
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used  
Measures for the Safe Use of Chemicals in Workplaces  
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)  
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009 )  
Packing Symbol of Dangerous Goods(GB190-2009)  
Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

#### Occupational exposure limits for hazardous agents in the workplace (GBZ 2.1-2007)

Not listed.

#### Classification and code of dangerous goods (GB 6944-2012)

Regulated.

#### List of Dangerous Goods (GB 12268-2012)

Regulated.

#### The Principle of Classification of Transport Packaging Groups of Dangerous Goods (GB/T15098-2008)

Regulated.

#### General Specifications for Transport Packages of Dangerous Goods (GB 12463-2009)

Regulated.

#### Regulations on Road Transport of Dangerous Goods

Regulated.

#### Regulations on Rail Road Transport of Dangerous Goods

Regulated.

#### UN Recommendations on the Transport of Dangerous Goods (UN RTDG)

Regulated.

### 16. Other information

#### References

EPA: AQUIRE database  
GB6944-2012: Classification and Code of Dangerous Goods.  
GB12268-2012: List of Dangerous Goods.  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents

# SAFETY DATA SHEET

## BIOMATE MBC2881

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**List of abbreviations**

CAS: Chemical Abstract Service Registration Number  
TWA: Time Weighted Average  
STEL: Short Term Exposure Limit  
LD50: Lethal Dose, 50%  
LC50: Lethal Concentration, 50%  
EC50: Effect Concentration, 50%  
NOEL: No Observed Effect Level  
COD: Chemical Oxygen Demand  
BOD: Biochemical Oxygen Demand  
TOC: Total Organic Carbon  
CEN: European Committee for Standardisation  
NFPA: National Fire Protection Association  
ACGIH: American Conference of Governmental Industrial Hygienists

**Further information** Correction in Section: 1,2,3,11,16

**Disclaimer** Information presented herein has been compiled from sources considered to be dependable. The information in the sheet was written based on the best knowledge and experience currently available. Suez Water Technologies does not make any warranty or representation (express or implied) with respect to the accuracy, completeness, or usefulness of the information contained in this guide. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information** Exposure controls/personal protection: Engineering measures  
Other information: Disclaimer  
GHS: Classification

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