



SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

## VANTOCIL TG

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Product information

Trade name : VANTOCIL TG  
Product code : 45014  
Use of the Substance/Preparation : Biocidal product

Company : Arch UK Biocides  
Wheldon Road  
Castleford  
The United Kingdom  
WF10 2JT

Telephone : +44 (0)1977 714200  
Telefax : +44 (0)1977 714003  
Emergency telephone : +44 (0)208 762 8322  
Responsible/issuing person : sdsbiocides@archchemicals.com  
E-mail address

### 2. HAZARDS IDENTIFICATION



Irritant



Dangerous for the environment

#### Risk advice to man and the environment

May cause sensitization by skin contact.  
Irritating to respiratory system and skin.  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : PHMB  
Chemical nature : Aqueous solution

#### Hazardous components

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

Chemical Name	CAS-No.	EC-No. / Registration number	Classification	Concentration [%]
poly(hexamethylenebiguanide) hydrochloride	27083-27-8		Xn; R22 Xi; R37-R38 Xi; R41 R43 N; R50-R53	20

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

**4. FIRST AID MEASURES**

- General advice : No hazards which require special first aid measures.
- Inhalation : Move to fresh air.  
Keep patient warm and at rest.  
Give oxygen or artificial respiration if needed.  
When symptoms persist or in all cases of doubt seek medical advice.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Wash off immediately with plenty of water for at least 15 minutes.  
If a person feels unwell or symptoms of skin irritation appear, consult a physician.  
Wash contaminated clothing before re-use.
- Eye contact : Rinse immediately with plenty of water for at least 15 minutes.  
Keep eye wide open while rinsing.  
Immediate medical attention is required.
- Ingestion : Do NOT induce vomiting.  
Never give anything by mouth to an unconscious person.  
If you feel unwell, seek medical advice (show the label where possible).

**Notes to physician**

- Treatment : Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- : Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)
- Specific hazards during fire fighting : The product is not flammable.  
Do not allow run-off from fire fighting to enter drains or water

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

courses.

: Burning produces noxious and toxic fumes.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Standard procedure for chemical fires.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Ensure adequate ventilation.  
Avoid contact with the skin and the eyes.  
Refer to protective measures listed in sections 7 and 8.  
Wear protective gloves/clothing.  
Take off contaminated clothing and shoes immediately.  
Wash contaminated clothing before re-use.
- Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.  
If the product contaminates rivers and lakes or drains inform respective authorities.  
Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
After cleaning, flush away traces with water.  
Retain and dispose of contaminated wash water.
- : Pick up and transfer to properly labelled containers.  
Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Handling**

- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**Storage**

- Requirements for storage areas and containers : Store in original container.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Use appropriate container to avoid environmental contamination.

Other data : No decomposition if stored and applied as directed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### Personal protective equipment

- Respiratory protection : In the case of aerosol or mist formation use respirator with an approved filter.  
Half mask with a particle filter P2 (EN 143).
- Hand protection : Impervious gloves  
Nitrile rubber  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.  
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.  
The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.  
Gloves must be inspected prior to use.  
Replace when worn.  
Do not wear leather gloves.
- Eye protection : Wear eye/face protection.  
Safety glasses with side-shields
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Lightweight protective clothing  
disposable one-piece overall with integral hood
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
High standards of skin care and personal hygiene should be exercised at all times.  
Keep working clothes separately.  
Wash hands before breaks and immediately after handling the product.  
Contaminated work clothing should not be allowed out of the workplace.  
Remove and wash contaminated clothing and gloves, including the inside, before re-use.  
When using do not eat, drink or smoke.

Protective measures

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	: Aqueous solution
Colour	: colourless
Odour	: odourless

**Safety data**

Flash point	: Note: does not flash
Lower explosion limit	: Note: not applicable
Upper explosion limit	: Note: not applicable
Autoignition temperature	: Note: no data available
pH	: 5 - 6
Melting point/range	: ca. 0 °C
Boiling point/boiling range	: ca. 102 °C
Vapour pressure	: Note: no data available
Density	: ca.1.04 g/cm <sup>3</sup> at 25 °C
Water solubility	: Note: completely miscible
Partition coefficient: n-octanol/water	: Note: no data available
Viscosity, dynamic	: ca.5 mPas at 25 °C

**10. STABILITY AND REACTIVITY**

Conditions to avoid	: None known.
Thermal decomposition	: Note: None known.
Hazardous reactions	: Note: Stable under recommended storage conditions.

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

**11. TOXICOLOGICAL INFORMATION**

- Acute oral toxicity : LD50  
Species: rat  
Dose: > 2,000 mg/kg  
Remarks: Ingestion may cause irritation to mucous membranes.
- Acute inhalation toxicity : Remarks: Because of the physical form of this substance, inhalation is not likely.  
Inhalation may cause irritation to the nose, throat, upper respiratory tract and lungs.
- Skin irritation : Remarks: Irritating to skin.
- Eye irritation : Remarks: May irritate eyes.
- Sensitisation : Remarks: May cause sensitization by skin contact.
- CMR effects  
poly(hexamethylenebiguanid e) hydrochloride : Carcinogenicity: Studies in animals have shown that PHMB does not represent a carcinogenic or teratogenic risk to man.
- Further information : no data available

**12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

- Toxicity to fish  
poly(hexamethylenebiguanid e) hydrochloride : flow-through test LC50  
Species: Oncorhynchus mykiss (rainbow trout)  
Dose: 0.026 mg/l  
Exposure time: 96 h  
Remarks: Very toxic to fish.

- Toxicity to daphnia and other aquatic invertebrates.  
poly(hexamethylenebiguanid e) hydrochloride : EC50  
Species: Daphnia magna (Water flea)  
Dose: 0.09 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Very toxic to aquatic organisms.

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

## Toxicity to algae

poly(hexamethylenebiguanid e) hydrochloride : ErC50  
 Species: Pseudokirchneriella subcapitata (green algae)  
 Dose: 0.0191 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201  
 Remarks: Very toxic to algae.

## Toxicity to bacteria

: Respiration inhibition IC10  
 Species: Bacteria  
 Dose: 40 mg/l

## Toxicity to bacteria

poly(hexamethylenebiguanid e) hydrochloride : EC50  
 Species: Bacteria  
 Dose: 38 mg/l  
 Exposure time: 4 h

**Elimination information (persistence and degradability)**

## Bioaccumulation

poly(hexamethylenebiguanid e) hydrochloride : Remarks: Bioaccumulation is unlikely.

## Distribution among environmental compartments

poly(hexamethylenebiguanid e) hydrochloride : Remarks: Adsorbs on soil.

## Additional advice Environmental fate and pathways

## Biodegradability

poly(hexamethylenebiguanid e) hydrochloride : Remarks: Not readily biodegradable.

**Further information on ecology**

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## Additional ecological information

poly(hexamethylenebiguanid e) hydrochloride : Cationic substances are regarded to be effectively removed in waste water treatment processes by complex formation and adsorption.

**13. DISPOSAL CONSIDERATIONS**

Product : This material and its container must be disposed of as hazardous waste.  
 The product should not be allowed to enter drains, water courses or the soil.

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

Dispose of as hazardous waste in compliance with local and national regulations.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Contaminated packaging : Dispose of as unused product.  
Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

Dangerous for Transport

**ADR**

UN-Number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Classification Code : M6  
Hazard identification No : 90  
Labels : 9

**IATA**

UN-Number : 3082  
Description of the goods : Environmentally hazardous substance, liquid n.o.s.  
(poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9

**IMDG**

UN-Number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Number 1 : F-A  
EmS Number 2 : S-F

Marine pollutant : yes  
poly(hexamethylenebiguanide) hydrochloride

**15. REGULATORY INFORMATION****Labelling according to EC Directives****1999/45/EC**

Symbol(s) : Xi Irritant



**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

	N	Dangerous for the environment
R-phrases(s)	: R37/38 R43 R50/53	Irritating to respiratory system and skin. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	: S23 S36/37/39  S60  S61	Do not breathe spray. Wear suitable protective clothing, gloves and eye/face protection. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Hazardous components which must be listed on the label:

- poly(hexamethylenebiguanide) hydrochloride 27083-27-8

**National legislation**

Major Accident Hazard Legislation : 96/82/EC Update: 2003  
Dangerous for the environment  
Quantity 1: 100 t  
Quantity 2: 200 t

Water contaminating class (Germany) : WGK 2 water endangering

Volatile organic compounds (VOC) content : Directive 1999/13/EC  
not applicable

**16. OTHER INFORMATION****Full text of R-phrases referred to under sections 2 and 3**

R22	Harmful if swallowed.
R37	Irritating to respiratory system.
R37/38	Irritating to respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.

**Further information**

VANTOCIL is a trade mark of ARCH UK BIOCIDES LTD

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

**VANTOCIL TG**

Version 9.2

Revision Date 05.08.2014

Print Date 05.08.2014

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.