

MATERIAL SAFETY DATA SHEET

PRODUCT NAME:

Virkon Aquatic

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MATERIAL SAFETY DATA SYSTEMS

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Virkon® Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Virkon® Aquatic
MSDS Number : 130000036337
Product Use : Disinfectant
Manufacturer : Antec International Limited
Windham Road
Sudbury / Suffolk - CO10 2XD
United Kingdom
Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)
Other information : professional use

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects
Skin : Causes skin irritation.
Eyes : Risk of serious damage to eyes.
Inhalation : May cause irritation of respiratory tract.
Ingestion : Harmful if swallowed.
Carcinogenicity
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Virkon[®] Aquatic**

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

Component	CAS-No.	Concentration
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8	40 - 60 %
Sulfamic acid	5329-14-6	4 - 6 %
Sodium chloride	7647-14-5	1 - 3 %

SECTION 4. FIRST AID MEASURES

- Skin contact : Wash off immediately with plenty of water. Consult a physician.
- Eye contact : Remove contact lenses. Rinse immediately with plenty of water and seek medical advice. Call a physician immediately.
- Inhalation : Remove from exposure, lie down. If victim has stopped breathing: Artificial respiration and/or oxygen may be necessary. Consult a physician.
- Ingestion : Do NOT induce vomiting. If conscious, drink plenty of water. Call a physician immediately.
- General advice : Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIREFIGHTING MEASURES

- Flammable Properties
Flash point : does not flash
- Fire and Explosion Hazard : Do not allow run-off from fire fighting to enter drains or water courses. Hazardous decomposition products (see also section 10)
- Suitable extinguishing media : The product itself does not burn., Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

Unsuitable extinguishing media : Carbon dioxide (CO₂)

Firefighting Instructions : Wear self-contained breathing apparatus and protective suit. The product itself does not burn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Evacuate personnel to safe areas. Use personal protective equipment.

Spill Cleanup : Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

Accidental Release Measures : Try to prevent the material from entering drains or water courses. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Avoid dust formation in confined areas. For personal protection see section 8. Avoid contact with skin and eyes. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing.

Storage : Protect from contamination. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Store in original container. Keep away from: Combustible material Strong bases Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation.

Personal protective equipment
Respiratory protection : Provide adequate ventilation. Use NIOSH approved respiratory protection.



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

- Hand protection : Additional protection: Rubber gloves
- Eye protection : Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.
- Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.

Exposure Guidelines Exposure Limit Values

Dust (inhalable and respirable fraction)			
TLV	(ACGIH)	10 mg/m ³	TWA Inhalable particles.
TLV	(ACGIH)	3 mg/m ³	TWA Respirable particles.
Pentapotassium bis(peroxymonosulphate) bis(sulphate)			
AEL *	(DUPONT)	1 mg/m ³	15 minute TWA
Sulphamidic acid			
AEL *	(DUPONT)	0.5 mg/m ³	8 & 12 hr. TWA
AEL *	(DUPONT)	1.5 mg/m ³	15 minute TWA
Dipotassium peroxodisulphate			
TLV	(ACGIH)	0.1 mg/m ³	TWA as persulfate
Potassium sulfate			
AEL *	(DUPONT)	10 mg/m ³	8 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : powder
Color : pink



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

Odor : none
 pH : 2.4 - 2.7
 Specific gravity : 1.07
 Water solubility : 65 g/l at 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

Stability : Stable under recommended storage conditions.
 Conditions to avoid : In contact with halogen salts (e.g. KCl, KBr, KI, NaCl), Virkon Aquatic may react to release halogen gases, such as chlorine, bromine & iodine. Avoid flammable products, bases etc. Keep away from ignition sources and moisture
 Incompatibility : Strong bases, combustible material, water containing halogen salts
 Hazardous decomposition products : Sulphur dioxide, Chlorine

SECTION 11. TOXICOLOGICAL INFORMATION

Virkon[®] Aquatic
 Inhalation 4 h LC50 : 3.7 mg/l , rat
 Dermal LD50 : 2,200 mg/kg , rat
 Oral LD50 : 4,123 mg/kg , rat
 Eye irritation : Risk of serious damage to eyes.
 Sensitisation : Animal test did not cause sensitization by skin contact., guinea pig

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

Skin irritation : Causes burns., rabbit
 Mutagenicity : Animal testing did not show any mutagenic effects.
 Did not cause genetic damage in cultured bacterial cells.
 Tests on mammalian cell cultures showed mutagenic effects.
 Evidence suggests this substance does not cause genetic damage in animals.
 Teratogenicity : Animal testing showed no developmental toxicity.

Sulfamic acid

Skin irritation : Severe skin irritation, rabbit



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

Repeated dose toxicity : Oral
rat

No toxicologically significant effects were found.

Mutagenicity : Animal testing did not show any mutagenic effects.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Sodium chloride

Skin irritation : No skin irritation, rabbit

Repeated dose toxicity : Oral
rat

Due to its physical properties, there is no potential for adverse effects.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

96 h LC50 : *Cyprinodon variegatus* (sheepshead minnow) 1.09 mg/l Directive 67/548/EEC, Annex V, C.1.

96 h ErC50 : *Selenastrum capricornutum* (green algae) > 1 mg/l OECD Test Guideline 201

72 h NOEC : *Selenastrum capricornutum* (green algae) 0.5 mg/l

48 h EC50 : *Daphnia magna* (Water flea) 3.5 mg/l OECD Test Guideline 202

37 d : NOEC *Cyprinodon variegatus* (sheepshead minnow) 0.222 mg/l

28 d : NOEC *Americamysis bahia* (mysid shrimp) 0.267 mg/l

Sulfamic acid

96 h LC50 : *Pimephales promelas* (fathead minnow) 70.3 mg/l OECD Test Guideline 203
Information given is based on data obtained from similar substances.



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

72 h ErC50 : Desmodesmus subspicatus (green algae) 48 mg/l OECD Test Guideline 201

72 h NOEC : Desmodesmus subspicatus (green algae) 18 mg/l OECD Test Guideline 201

48 h EC50 : Daphnia magna (Water flea) 71.6 mg/l OECD Test Guideline 202

Sodium chloride

96 h LC50 : Lepomis macrochirus (Bluegill sunfish) 5,840 mg/l

96 h LC50 : Carassius auratus (goldfish) 7,341 mg/l

96 h LC50 : Pimephales promelas (fathead minnow) 10,610 mg/l

96 h IC50 : Lemna minor (duckweed) 6,870 mg/l

48 h EC50 : Daphnia magna (Water flea) 874 mg/l

7 d : NOEC Pimephales promelas (fathead minnow) 4,000 mg/l

33 d : NOEC Pimephales promelas (fathead minnow) 252 mg/l

21 d : NOEC Daphnia magna (Water flea) 314 mg/l

7 d : NOEC Ceriodaphnia Dubia (water flea) 354 mg/l

Environmental Fate Virkon[®] Aquatic

Biodegradability : Expected to be biodegradable

Sodium chloride

Bioaccumulation : Bioaccumulation is unlikely.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Dispose of as special waste in compliance with local and national regulations. The product should not be allowed to enter drains, water courses or the soil.

Environmental Hazards : If recycling is not practicable, dispose of in compliance with local regulations.



Virkon[®] Aquatic

Version 2.3

Revision Date 05/09/2014

Ref. 130000036337

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

D.I.N. Number : 02276356
Remarks : Regulated under the Food and Drugs Act – WHMIS exempt.

SECTION 16. OTHER INFORMATION

MSDS preparation date : 05/09/2014

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.

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