

SECTION 1 - PRODUCT IDENTIFICATION	
<b>Product identifier/Trade name:</b>	VIRKON
<b>Product code/Internal Identification:</b>	DIN 02125021
<b>Product use/Description:</b>	Disinfectant in 50 g, 500 g, 5 kg and 20 kg container.
<b>Product chemical name:</b>	N/Ap
<b>Chemical family:</b>	N/Ap
<b>MSDS preparation/review date:</b>	October 22, 2009
<b>Supplier identifier:</b>	Vétoquinol N.-A. Inc. 2000 Chemin Georges, Lavaltrie, Qué (Canada), J5T 3S5 Tél. (450) 586-2252
<b>Emergency phone number:</b>	(613) 996-6666 (CANUTEC); 1-800 463-5060 OR (418) 656-8090 (CONTROL POISON CENTER)
<b>Manufacturer identifier:</b>	Antec International Ltd – a DuPont Company
<b>Emergency phone number:</b>	Same as supplier
<b>WHMIS Classification:</b>	Refer to Section 15.

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS				
Hazardous Ingredients	CAS #	% (weight)	LD <sub>50</sub> (route, specie)	LC <sub>50</sub> (specie)
Virkon	N/Av	100	N/Av	N/Av
Sulfamic acid	5329-14-6	3-7	3160 mg/kg (oral, rat)	N/Av
Potassium peroxomonosulfate	70693-62-8	30-60	N/Av	N/Av
Benzenesulfonic acid, C10-13 alkyl derivatives, sodium salts	68411-30-3	7-13	404 mg/kg (oral, rat)	N/Av
Sodium toluenesulfonate	12068-03-0	1-5	N/Av	N/Av
Malic acid	6915-15-7	7-13	1600 mg/kg (oral, mouse)	N/Av
Dipotassium persulfate	7727-21-1	1-3	802 mg/kg (oral, rat)	N/Av

SECTION 3 - HAZARDS IDENTIFICATION	
<b>Emergency Overview</b>	
Pink, free flowing powder with faint lemon odor. OXIDIZER. TOXIC. IRRITANT. May cause irritations to the respiratory tract, eyes and skin. During a fire, irritating/toxic smoke and fumes may be generated. Mild central nervous system depressant. High vapour or dust concentrations may cause headache, nausea, dizziness, drowsiness, incoordination, and confusion. Harmful if swallowed. Aspiration hazard. Swallowing or vomiting of the product may result in aspiration into the lungs.	
<b>POTENTIAL HEALTH EFFECTS</b> (for more details, refer to Section 11)	
<b>Primary entry route(s):</b> Skin, eye, ingestion and inhalation.	
<b>Effects of short-term (acute) and long-term (chronic) exposure:</b>	
<b>Inhalation:</b>	May cause central nervous system (CNS) depression. May cause headache, nausea, dizziness, vomiting and incoordination. May cause irritations to the respiratory tract.
<b>Skin:</b>	May cause a moderate to severe irritation. Long-term or repeated contact may result in dermatitis (dry, red, cracked skin).
<b>Eye:</b>	Product may cause a moderate to severe eye irritation or damage (redness and tearing).
<b>Ingestion:</b>	Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration hazard. Swallowing or vomiting of the liquid may cause aspiration (breathing) into the lungs.

SECTION 4 - FIRST AID MEASURES	
<b>Inhalation:</b>	Remove source of contamination or have victim move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention immediately.
<b>Skin contact:</b>	Flush contaminated area with lukewarm, gently running water for at least 20 minutes or until the chemical is removed. Under running water, remove contaminated clothing. If irritation persists, obtain medical advice. Completely decontaminate clothing before reuse or discard.
<b>Eye contact:</b>	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, or until the chemical is removed, while holding the eyelid(s) open. Obtain medical attention immediately
<b>Ingestion:</b>	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

**SECTION 5 - FIRE FIGHTING MEASURES****Fire hazards/conditions of flammability:**

Product is not flammable under normal handling conditions but contribute as an oxidizer.

**Flash point (Method):** N/Av (closed cup)

**Lower flammable limit (% by volume):** N/Av

**Upper flammable limit (% by volume):** N/Av

**Sensitivity to mechanical impact:** Not sensitive.

**Sensitivity to static discharge:** Not sensitive.

**Auto-ignition temperature:** N/Av

**Suitable extinguishing media:** Carbon dioxide, dry chemical powder and appropriate foam.

**Special fire-fighting procedures/equipment:**

During a fire, irritating/toxic smoke and fumes may be generated. Vapours can accumulate in confined spaces, resulting in a toxicity and flammability hazard. A self-contained breathing apparatus is required for fire-fighting personnel to protect themselves from toxic products produced during the combustion. Closed containers may explode with the pressure building from the heat. Use water to cool fire exposed containers and prevent this situation.

**Hazardous combustion products:**

Carbon monoxide, carbon dioxide and other irritant gases, which may include toxic constituents.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES****Personal precautions:**

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Remove all ignition sources. Remove or isolate flammable and combustible materials. Wear adequate personal protective equipment (See Section 8). Ventilate area.

**Spill response/Cleanup:**

Stop the flow if it can be done safely. Keep materials which can burn away from spilled material. Prevent material from entering waterways, sewers or confined spaces. **SMALL SPILLS:** Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water. **LARGE SPILLS:** Contain spill with earth, sand, or absorbent material which does not react with spilled material. Remove liquid by explosion-proof pumps or vacuum equipment. Place in suitable, covered, labelled containers. Contact fire and emergency services and supplier for advice. Contaminated absorbent material may pose the same hazards as the spilled product.

**Environmental precautions:**

For large spills, notify government occupational health and safety and environmental authorities. Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

**SECTION 7 - HANDLING AND STORAGE****Safe handling procedures:**

Before handling, it is very important that engineering controls are operating and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Do not use near welding operations, flames or hot surfaces. Ensure proper ventilation after sealed area has been treated. Avoid generating dusts, vapours or mists. Inspect containers for leaks before handling. Label containers appropriately. Keep containers closed when not in use. Assume that empty containers contain residues which are hazardous. Do not use with incompatible materials such as flammable products.

**Storage requirements:**

Store in a cool, well-ventilated area, out of direct sunlight and away from heat and ignition sources. Keep storage area clear of ignition sources. Store away from incompatible materials such as flammable products. Inspect all incoming containers to make sure they are properly labelled and not damaged. Store in suitable, labelled containers. Keep containers tightly closed. Empty containers may contain hazardous residues. Keep absorbents for leaks and spills readily available. Storage facilities should be made of fire resistant materials. For large-scale storage, use a grounded, non-sparking ventilation system, approved explosion-proof equipment and intrinsically safe electrical systems. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Engineering controls:**

Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

**Respiratory Protection:**

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirator if the exposure limits are unknown.

**Protective Clothing/Equipment:**

Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective chemical safety goggles or in a splash environment in combination with a face shield. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area. Separate contaminated work clothes from street clothes. Launder before reuse.

**Comments:**

Avoid contact with skin and eyes. Avoid breathing dusts, vapours or mists. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Physical state, colour and odour:** Pink, free flowing powder with faint lemon odor.

**Odour threshold:** N/Av

**pH:** N/Av

**Melting/freezing point:** N/Av

**Coefficient of oil/water distribution:** N/Av

**Specific gravity or density (water = 1, at 4 °C):** ~ 1.07

**Evaporation rate (n-Butyl acetate = 1):** N/Av

**Boiling point:** N/Av

**Vapour pressure:** N/Av

**Solubility in water:** Soluble 65 g/L @ 20°C

**Vapour density (Air = 1):** N/Av

**% volatile by volume:** N/Av

## SECTION 10 - REACTIVITY AND STABILITY DATA

**Stability and reactivity:** Stable at room temperature, in normal handling and storage conditions.

**Polymerisation:** Hazardous polymerisation will not occur.

**Conditions to avoid:** Avoid FLAMMABLE PRODUCTS, BASES, etc... Keep away from ignition sources. Moisture.

**Materials to avoid:** Avoid FLAMMABLE PRODUCTS, BASES, etc...

**Hazardous decomposition products:**

If heated at temperature above 70° C, decompose as sulfur dioxide and chlorine when product becomes moist.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Exposure limits:** N/Av for the product.

Ingredient	OSHA PEL		ACGIH TLV		Other exposure limits
	TWA	STEL	TWA	STEL	
Sulfamic acid	N/Av	N/Av	N/Av	N/Av	N/Av
Potassium peroxomonosulfate	N/Av	N/Av	N/Av	N/Av	N/Av
Benzenesulfonic acid, C10-13 alkyl derivatives, sodium salts	N/Av	N/Av	N/Av	N/Av	N/Av
Sodium toluenesulfonate	N/Av	N/Av	N/Av	N/Av	N/Av
Malic acid	N/Av	N/Av	N/Av	N/Av	N/Av
Dipotassium persulfate	N/Av	N/Av	0.1 mg/m <sup>3</sup>	N/Av	N/Av

**For more details, refer to Section 3.**

**Carcinogenicity:** No ingredient listed by IARC, ACGIH, NTP or OSHA as a carcinogen.

**Teratogenicity, mutagenicity, other reproductive effects:** N/Av

**Skin sensitization:** Dipotassium persulfate may cause skin sensitization.

**Respiratory tract sensitization:** Dipotassium persulfate may cause respiratory tract sensitization.

**Synergistic materials:** N/Av

## SECTION 12 - ECOLOGICAL INFORMATION

**Environmental effects:** N/Av

**Important environmental characteristics:** N/Av

**Aquatic toxicity:** N/Av

**SECTION 13 - WASTE DISPOSAL**
**Handling and storage conditions for disposal:**

Store material for disposal as indicated in Handling and Storage (Section 7).

**Methods of disposal:**

Review federal, provincial and local government requirements prior to disposal. Disposal by controlled incineration or secure landfill may be acceptable.

**SECTION 14 - TRANSPORTATION INFORMATION**
**Transportation of Dangerous Goods (TDG) :**

TDG Classification: NOT REGULATED

Special case: N/Ap

**SECTION 15 - REGULATORY INFORMATION**
**In Canada**
**WHMIS information:**

Product is regulated according to the Food and Drugs Act and is exempted from the Controlled Product Regulation (CPR) in Canada.

**Hazardous Materials Identification System (HMIS):**

HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: Section 8.

HAZARD: 0 Minimal 1 Slight 2 Moderate 3 Serious 4 Severe

**National Fire Protection Association (NFPA):**

HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: Section 8.

HAZARD: 0 Minimal 1 Slight 2 Moderate 3 Serious 4 Severe

**SECTION 16 - OTHER INFORMATION**

**Prepared by:** NSS ENTREPRISE INC. for Vétoquinol

**Telephone number:** (514) 239-8785 or (450) 586-2252

**References:**

1. Manufacturer'/suppliers' MSDS.
2. Documents provided by the «Répertoire toxicologique de la CSST».
3. Canadian Centre for Occupational Health and Safety, CHEMpendium/RTECS, 2009.

**Abbreviations:**

ACGIH	American Conference of Governmental Industrial Hygienists
C	Ceiling
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations (Transportation in U.S.A.)
DOT	Department of Transport (U.S.A.)
DSL	Domestic Substance List
IARC	International Agency for Research on Cancer
LC	Lethal concentration
LD	Lethal Dosage
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
STEL	Short-term Exposure Limit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
USEPA	United States Environmental Protection Agency
WHMIS	Workplace Hazardous Materials Information System

End of the MSDS