Safety Data Sheet

SECTION 1: Identification

1.1 Product identifier
Product name Vector 5.9% Peracetic Acid
Product number 959
Brand Crown Chemical, Inc.

1.2 Other means of identification
Vector 5.9% Peracetic Acid

1.3 Recommended use of the chemical and restrictions on use
Sanitizing, disinfecting, cleaning

1.4 Supplier's details
Name Crown Chemical, Inc.
Address 4701 W. 136th. St.
Crestwood, Illinois 60418
U.S.A.
Telephone 708-371-6990
Fax 708-371-6992
email info@crown-chem.com

1.5 Emergency phone number(s)
800-535-5053

SECTION 2: Hazard identification

General hazard statement
Causes serious eye damage; Causes severe skin burns and eye damage; Harmful if swallowed.

2.1 Classification of the substance or mixture
GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)
- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Acute toxicity, oral, Cat. 4
- Oxidizing liquids, Cat. 2

2.2 GHS label elements, including precautionary statements

Pictogram

1. Corrosion; 2. Exclamation mark; 3. Flame over circle

Signal word Danger

Hazard statement(s)
H272 May intensify fire; oxidizer
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing/.../combustible materials.
P221 Take any precaution to avoid mixing with combustibles/...
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep 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/...
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P331 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use ... to extinguish.
P405 Store locked up.
P501 Dispose of contents/container to ...
3. PERACETIC ACID
Concentration 5 - 10 % (By Weight)
EC no. 201-186-8
CAS no. 79-21-0
Index no. 607-094-00-8

- Flammable liquids, Cat. 3
- Organic peroxides, Type D
- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, dermal, Cat. 4
- Acute toxicity, oral, Cat. 4
- Skin corrosion/irritation, Cat. 1A
- Hazardous to the aquatic environment, short-term (acute), Cat. 1

H226 Flammable liquid and vapor
H242 Heating may cause a fire
H302 Harmful if swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H332 Harmful if inhaled
H400 Very toxic to aquatic life

4. Phosphonic acid, P,P'-(1-hydroxyethylidene)bis-
Concentration 1 - 3 % (By Weight)
EC no. 220-552-8
CAS no. 2809-21-4

5. Sulfuric acid
Concentration 1 % (By Weight)
EC no. 231-639-5
CAS no. 7664-93-9
Index no. 016-020-00-8

- Skin corrosion/irritation, Cat. 1A

H314 Causes severe skin burns and eye damage

Trade secret statement (OSHA 1910.1200(i))
The specific chemical identities and/or actual concentrations for one or more components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice
Do not breathe vapors or mists. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective rubber gloves and chemical splash goggles or face shield when using this product. If inhalable particles of vapors or mists may occur during use, wear NIOSH approved respiratory protection. Mix ONLY with water. Keep away from heat, sparks, open flames and hot surfaces. Store away from clothing, cardboard, paper, rags and other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container. Keep in cool, well-ventilated area.

If inhaled
Remove person to fresh air immediately and keep comfortable for breathing. Call a Poison Control Center or doctor for treatment advice.
In case of skin contact  Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a Poison Control Center or doctor for treatment advice.

In case of eye contact  Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a Poison Control Center or doctor for treatment advice.

If swallowed  Immediately call a Poison Control Center or doctor for treatment advice. Rinse out mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical
Sulfuric acid: No data available.

5.3 Special protective actions for fire-fighters
In case of fire and/or explosion do not breathe fumes. In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Further information
Evacuate area. Risk of explosion. Decomposition will release of oxygen, which will intensify fire. Closed containers may explode due to heat from fire. Cool with water spray. No responsive action should be taken without proper training.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Initiate spill containment procedures immediately using containment or absorption methods. Keep people away from area. Put on appropriate protective equipment (see Section 8).

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Do not allow spilled material to enter sewers, waterways or soil. Neutralize with water. Mop, sweep or otherwise collect spilled material and hold for disposal. Consult local government authorities for allowable disposal methods. After removal, rinse area completely with water to remove residue.

Reference to other sections
For disposal see section 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with eyes, skin or clothing. Avoid contact with combustible materials. Avoid inhalation of dust or vapors. Use in a well ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities
Store in a locked location inaccessible to small children. Keep container closed when not in use. Store in a well ventilated area between 60-100°F (15-38°C).

Specific end use(s)
Consult product label for EPA prescribed Storage and Disposal information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hydrogen peroxide (CAS: 7722-84-1)
PEL (Inhalation): 1.4 mg/m³; USA (OSHA)
OSHA Annotated Table Z-1, www.osha.gov
PEL (Inhalation): 1 ppm; USA (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov
REL (Inhalation): 1 ppm; USA (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov
TLV® (Inhalation): 1 ppm; USA (ACGIH)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 25 mg/m³; USA (OSHA)
OSHA Annotated Table Z-1, www.osha.gov
PEL (Inhalation): 10 ppm, (ST) 15 ppm, (C) 40 ppm; USA (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov
REL (Inhalation): 10 ppm, (ST) 15 ppm; USA (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov
TLV® (Inhalation): 10 ppm, (ST) 15 ppm; USA (ACGIH)
OSHA Annotated Table Z-1, www.osha.gov
TWA (Inhalation): 10 ppm; USA (ACGIH)
USA, ACGIH Threshold Limit Values (TLV)/ Pulmonary function
STEL (Inhalation): 15 ppm; USA (ACGIH)
USA, ACGIH Threshold Limit Values (TLV)/Pulmonary function. Upper Respiratory Tract irritation. Eye irritation
ST (Inhalation): 15 ppm
37 mg/m³; USA (NIOSH)
USA, NIOSH Recommended
Exposure Limits/ Can be found in concentrations of 5-8% in vinegar
TWA (Inhalation): 10 ppm
25 mg/m³; USA (NIOSH)
USA, NIOSH Recommended
Exposure Limits/ Can be found in concentrations of 5-8% in vinegar
TWA (Inhalation): 10 ppm
25 mg/m³; USA (OSHA)
USA, Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
3. Sulfuric acid (CAS: 7664-93-9 EC: 231-639-5)
PEL (Inhalation): 1 mg/m3 (OSHA)
OSHA Annotated Table Z-1, www.osha.gov
PEL (Inhalation): 0.1 mg/m3, (ST) 3 mg/m3 (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov
REL (Inhalation): 1 mg/m3; USA (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov
TLV® (Inhalation): 0.2 mg/m3, (Thor.); USA (ACGIH)
OSHA Annotated Table Z-1, www.osha.gov
TWA (Inhalation): 0.2 mg/m3; USA (ACGIH)
USA. ACGIH Threshold Limit Values (TLV)
TWA (Inhalation): 1 mg/m3; USA (OSHA)
USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

8.2 Appropriate engineering controls
Use with adequate ventilation to maintain exposure limits below listed thresholds.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Wear chemical splash goggles or face shield when using this product.

Skin protection
Wear protective rubber gloves, a long sleeve shirt and, if necessary, a rubber apron to prevent contact.

Body protection
Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid contact with clothing or shoes. Wash contaminated items before reuse. Avoid wearing contact lenses when using this product.

Respiratory protection
Wear a NIOSH respirator approved for corrosive vapors or mists.

Thermal hazards
No data available.

Environmental exposure controls
Do not let product enter drains.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/form (physical state, color, etc.)</td>
<td>Colorless Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent Vinegar</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>&lt;1.0 (1% solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>226°F</td>
</tr>
<tr>
<td>Flash point</td>
<td>None to Decomposition</td>
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<tr>
<td>Evaporation rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper/lower flammability limits</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper/lower explosive limits</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.1 Reactivity
Product is highly reactive with acids, bases, metals, oxidizing agents, reducing agents, organic and combustible materials. Reactions may produce hazardous conditions, including violent splattering of corrosive materials and emission of oxygen gas, which is flammable. NEVER mix this product with other chemicals. Mix this product ONLY with water.

10.2 Chemical stability
Product is stable under normal storage and usage conditions.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials
Acetic acid: Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid
Sulfuric acid: Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates, Nitromethane, phosphorous, Reacts violently with; cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals

10.6 Hazardous decomposition products
Acetic acid: Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

Sulfuric acid: Hazardous decomposition products formed under fire conditions. - Sulphur oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Likely Routes of Exposure: Eyes, Skin, Ingestion, Inhalation

Skin corrosion/irritation
Irritation, pain, redness, blistering.

Serious eye damage/irritation
Irritation, pain, redness, watering.
Respiratory or skin sensitization
Coughing, choking, respiratory tract irritation, breathing difficulty.

Germ cell mutagenicity
No data available.

Carcinogenicity
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

Summary of evaluation of the CMR properties
No known significant effects or critical hazards.

STOT-single exposure
No data available.

STOT-repeated exposure
No data available.

Aspiration hazard
No data available.

Additional information
No known significant effects or critical hazards.

SECTION 12: Ecological information

Toxicity
Toxic to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available on product.

Mobility in soil
No data available.

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects
No known significant effects or critical hazards.
SECTION 13: Disposal considerations

Disposal of the product
Avoid disposal of this product. Use complete contents according to directions. Do not release contents into a municipal sewer except through normal dilution and usage. Do not release contents onto the ground or into any body of water. Dispose of empty container by offering for recycling if available, or into a landfill. Follow all applicable state and local regulations.

Disposal of contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)
UN Number: UN 3109,
Class: 5.2
Packing Group: I
Proper Shipping Name: UN 3109, Organic Peroxide Type F, Liquid (Peroxyacetic Acid, Type F, Stabilized), 5.2 (8), PG II

Note: Certain package sizes of this product may qualify for exceptions to DOT’s packaging, labeling and other requirements, and thus may have different DOT shipping names. For bulk shipments, see the shipping documents.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components
The following components are subject to reporting levels established by SARA Title III, Section 302:
Hydrogen peroxide CAS-Number: 7722-84-1

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

The following components are subject to reporting levels established by SARA Title III, Section 302:
Sulfuric acid
CAS number: 7664-93-9

SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard
Fire Hazard, Acute Health Hazard, Chronic Health Hazard
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
Hydrogen peroxide CAS number: 7722-84-1
Trocosene sodium, dihydrate CAS: 51580-86-0
Ethaneperoxoic acid CAS number: 79-21-0

Acetic acid
CAS number: 64-19-7

Sulfuric acid
CAS number: 7664-93-9
Pennsylvania Right To Know Components
CAS-number: 7732-18-5
Hydrogen peroxide CAS number: 7722-84-1
Troclosene sodium, dihydrate CAS: 51580-86-0
Ethaneperoxoic acid CAS number: 79-21-0
Acetic acid
CAS number: 64-19-7

Sulfuric acid
CAS number: 7664-93-9

New Jersey Right To Know Components
Hydrogen peroxide CAS number: 7722-84-1
Troclosene sodium, dihydrate CAS: 51580-86-0
PEROXYACETIC ACID CAS number: 79-21-0

Acetic acid
CAS number: 64-19-7

Sulfuric acid
CAS number: 7664-93-9

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

WARNING! This product contains a chemical known to the State of California to cause cancer.
Sulfuric acid
CAS number: 7664-93-9

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The following components are subject to reporting levels established by SARA Title III, Section 313:
Sulfuric acid
CAS number: 7664-93-9

SECTION 16: Other information

The information herein is believed to be correct, but is given without warranty or guaranty of any kind, express or implied. The hazards provided in this Safety Data Sheet apply to the product in its concentrated form, and may differ significantly after dilution.

16.1 Further information/disclaimer
DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Crown Chemical, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Crown Chemical, Inc. has been advised of the possibility of such damages.