SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
- Product Name: 5.2 M Acetic acid
- Product Number: HR2-853
- REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
- CAS Number: 64-19-7

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Identified uses: Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the Safety Data Sheet
- Company: Hampton Research
  34 Journey
  Aliso Viejo, CA 92656-3317
  United States
- Telephone: 949 425 1321
  Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.
- Fax: 949 425 1611
  Fax Technical Support is available 24 hours a day.
- e-mail: tech@hrmail.com
  e-mail Technical Support is available 24 hours a day.

1.4 Emergency telephone number
- Emergency phone: 949 425 1321
- For CHEMTREC Assistance: 800 424 9300
- For CHEMTREC Assistance: 703 527 3887 (International)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
  Acute toxicity, Oral (Category 4), H302
  Serious eye damage (Category 1), H318

  For the full text of the H-Statements mentioned in this Section, see Section 16.

- Classification according to EU Directives 67/548/EEC or 1999/45/EC
  Xn Harmful R22, R41

  For the full text of the R-phrases mentioned in this Section, see Section 16.
(CONTINUED) - SECTION 2: Hazards Identification

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal word: Danger

Hazard statement(s)
H302: Harmful if swallowed.
H318: Causes serious eye damage.

Precautionary statement(s)
P280: Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: none

2.3 Other hazards - none

SECTION 3: Composition/Information on Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Synonym</th>
<th>Glacial acetic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>CH₃CO₂H</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>60.05</td>
</tr>
<tr>
<td>CAS Number</td>
<td>64-19-7</td>
</tr>
<tr>
<td>EC Number</td>
<td>200-580-7</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>RTECS</th>
<th>Merck</th>
<th>Beilstein</th>
<th>SARA</th>
<th>MDL #</th>
<th>PubChem Substance ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF1225000</td>
<td>N/A</td>
<td>506007</td>
<td>No</td>
<td>MFCD00036152</td>
<td>24859247</td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>Flam. Liq. 3; Skin Corr. 1A; H226, H314</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>C, R10 - R35</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>
SECTION 4: First Aid Measures

4.1 Description of first aid measures
   General Advice
   Consult a physician. Show this safety data sheet to the doctor in attendance.

   If inhaled
   If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

   In case of skin contact
   Wash off with soap and plenty of water. Consult a physician.

   In case of eye contact
   Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

   If swallowed
   Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
   To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed
   no data available

SECTION 5: Fire Fighting Measures

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

5.2 Special hazards arising from the substance or mixture
   Carbon oxides

5.3 Advice for firefighters
   Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further Information
   no data available

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
   Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
   Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
   Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.
(CONTINUED) - SECTION 6: Accidental Release Measures

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and Storage

7.1 Personal Precautions
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
SECTION 8: Exposure Controls/Personal Protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: butyl-rubber
Minimum layer thickness: 0,3 mm
Break through time: 480 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Nature latex/chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 30 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: liquid Color: colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>no data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</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>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>no data available</td>
</tr>
</tbody>
</table>
SECTION 9: Physical and Chemical Properties

i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapor pressure no data available
l) Vapor density no data available
m) Relative density no data available
n) Water solubility no data available
o) Partition coefficient: no data available
noctanol/water
p) Autoignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
Surface tension no data available
Relative vapour density no data available

SECTION 10: Stability and Reactivity

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5
SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - rat - 3.310 mg/kg
LC50 Inhalation - mouse - 1 h - 5620 ppm
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Conjunctive irritation.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Blood: Other changes.
LC50 Inhalation - rat - 4 h - 11,4 mg/l
LD50 Dermal - rabbit - 1.112 mg/kg

Skin irritation / corrosion
no data available

Serious eye damage/eye irritation
Eyes - rabbit
Result: Corrosive to eyes

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Chronic exposure
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional information
RTECS: AF1225000
(CONTINUED) - SECTION 11: Toxicological Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting. Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological Information

12.1 Toxicity
Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1.000 mg/l - 96h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 300,82 mg/l - 48 h (OECD Test Guideline 202)

12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 30 d
Result: 99 % - Readily biodegradable.
Remarks: Expected to be biodegradable

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

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

12.6 Other adverse effects
no data available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.
SECTION 14: Transportation Information

14.1 UN number
ADR/RID: 2789  IMDG: 2789  IATA: 2789

14.2 UN proper shipping name
ADR/RID: ACETIC ACID, GLACIAL
IMDG: ACETIC ACID, GLACIAL
IATA: Acetic acid, glacial

14.3 Transport hazard class(es)
ADR/RID: 8 (3)  IMDG: 8 (3)  IATA: 8 (3)

14.4 Packaging group
ADR/RID: II  IMDG: II  IATA: II

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
no data available

SECTION 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out.

SECTION 16: Other Information

Full text of H-statements referred to under sections 2 and 3.
Flam. Liq. Flammable liquids
H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
Skin Corr. Skin corrosion

Full text of R-phrases referred to under sections 2 and 3
C Corrosive
R10 Flammable.
R35 Causes severe burns.

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