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

- **Product identifier**
- **Trade name**: 3-Methylbutanoic Acid Neat
- **Part number**: WRK-140F
- **CAS Number**: 503-74-2
- **EC number**: 207-975-3
- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** ULTRA Scientific, inc.
    - 250 Smith Street
    - North Kingstown, RI 02852
    - USA
  - **Further information obtainable from:**
    - Telephone: (401) 294-9400
    - Fax: (401) 295-2300
    - E-mail: regulatory@ultrasci.com
  - **Emergency telephone number:**
    - US: (800) 424-9300
    - Outside US: (703) 527-3887

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
  
  - GHS06 skull and crossbones
  
  Acute Tox. 3  H311  Toxic in contact with skin.

- GHS07

  Acute Tox. 4  H302  Harmful if swallowed.

  - H315  Causes skin irritation.

  - Eye Irrit. 2  H319  Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
  
  The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**

  - GHS06

- **Signal word** Danger
Hazard-determining components of labelling:
Delphinic acid

Hazard statements
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P280 Wear protective gloves/protective clothing/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.
P321 Specific treatment (see on this label).
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Composition/information on ingredients

Chemical characterisation: Substances
CAS No. Description
503-74-2 Delphinic acid

Identification number(s)
EC number: 207-975-3

First aid measures

Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation: In case of unconsciousness place patient stably in side position for transportation.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Call for a doctor immediately.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.
5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling: No special precautions are necessary if used correctly.
  - Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
- Ingredients with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists valid during the making were used as basis.

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing.
      Wash hands before breaks and at the end of work.
      Store protective clothing separately.
      Avoid contact with the eyes.
      Avoid contact with the eyes and skin.
    - Respiratory protection: Not required.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation of the glove material.

- **Material of gloves**
- The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**
- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

Tightly sealed goggles

---

### Physical and chemical properties

- **General Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Fluid</td>
</tr>
<tr>
<td>Form:</td>
<td>Fluid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour:</td>
<td>Unpleasant</td>
</tr>
<tr>
<td>Odour threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>-29 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>175-177 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>74 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>440 °C</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C:</td>
<td>0.38 hPa</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>0.925 g/cm³</td>
</tr>
</tbody>
</table>
### Safety data sheet

**according to 1907/2006/EC, Article 31**

**Printing date 27.04.2017**

**Version number 1**

**Revision: 27.04.2017**

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#### Trade name: 3-Methylbutanoic Acid Neat

(Contd. of page 4)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water at 20 °C:</td>
<td>41 g/l</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content:</td>
<td></td>
</tr>
<tr>
<td>Organic solvents:</td>
<td>0.0 %</td>
</tr>
<tr>
<td>VOC (EC)</td>
<td>%</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

---

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
  - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
  - **Possibility of hazardous reactions** No dangerous reactions known.
  - **Conditions to avoid** No further relevant information available.
  - **Incompatible materials:** No further relevant information available.
  - **Hazardous decomposition products:** No dangerous decomposition products known.

---

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity** Harmful if swallowed. Toxic in contact with skin.
- **LD/LC50 values relevant for classification:**
  
<table>
<thead>
<tr>
<th>ATE (Acute Toxicity Estimates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 2000 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal LD50 310 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>
  
<table>
<thead>
<tr>
<th>503-74-2 Delphinic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 &gt;2000 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal LD50 3560 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation**
  Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
  Based on available data, the classification criteria are not met.
- **Carcinogenicity**
  Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
  Based on available data, the classification criteria are not met.
### 12 Ecological information

- **Toxicity**
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

### 13 Disposal considerations

- Waste treatment methods
- Recommendation:
  - Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### European waste catalogue

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 4</td>
<td>Irritant - skin irritation and eye damage</td>
</tr>
<tr>
<td>HP 6</td>
<td>Acute Toxicity</td>
</tr>
</tbody>
</table>

#### Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

### 14 Transport information

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>UN3265</td>
</tr>
<tr>
<td>ADR, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Delphinic acid)</td>
</tr>
<tr>
<td>ADR</td>
<td></td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Delphinic acid)</td>
</tr>
</tbody>
</table>

(Contd. on page 7)
### 44.2.6 Transport hazard class(es)
- ADR, IMDG, IATA

- **Class**: 8 Corrosive substances.
- **Label**: 8

#### Packing group
- ADR, IMDG, IATA
- **Packing group**: II

#### Environmental hazards:
- Not applicable.

- **Special precautions for user**: Warning: Corrosive substances.
- **Danger code (Kemler)**: 80
- **EMS Number**: 8-15
- **Segregation groups**: Acids
- **Stowage Category**: B
- **Stowage Code**: SW2 Clear of living quarters.

#### Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

#### Transport/Additional information:
- **ADR**
  - **Limited quantities (LQ)**: 1L
  - **Excepted quantities (EQ)**: Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
  - **Transport category**: 2
  - **Tunnel restriction code**: E

- **IMDG**
  - **Limited quantities (LQ)**: 1L
  - **Excepted quantities (EQ)**: Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation"**: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DELPHINIC ACID), 8, II

### 15 Regulatory information
- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **Chemical safety assessment**: A Chemical Safety Assessment has not been carried out.
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 3: Acute toxicity – Category 3
  - Acute Tox. 4: Acute toxicity – Category 4
  - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  - Skin corrosion/irritation – Category 2A