Benzonitrile, 2,3,4,5,6-pentafluoro- (cas 773-82-0) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
   Product Name: 2,3,4,5,6-Pentafluorobenzonitrile

2. HAZARDS IDENTIFICATION
   Classification of the substance or mixture
   According to Regulation (EC) No 1272/2008
   Flammable liquids (Category 3)
   Flammable.

   Label elements
   Pictogram
   Warning
   Signal word
   Hazard statement(s)
   H226
   Precautionary statement(s) none
   Hazard symbol(s) none
   R-phrase(s)
   R10 Flammable.
   S-phrase(s)
   S16 Keep away from sources of ignition - No smoking.
   Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS
   Formula: C7F5N
   Molecular Weight: 193.07 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration</th>
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<tr>
<td>773-82-0</td>
<td>212-259-9</td>
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<td>Flam. Liq. 3; H226 R10</td>
<td>-</td>
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</tbody>
</table>

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

4. 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
   Flush eyes with water as a precaution.

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

5. FIRE-FIGHTING MEASURES
   Suitable extinguishing media
   For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray;
solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
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. Store in cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).

Hand 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.

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

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
impervious clothing, 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.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form liquid
Colour dark yellow

Safety data
pH no data available
Melting point no data available
Boiling point 162 - 164 °C - lit.
Flash point: 29 °C - closed cup
Ignition temperature: data not available
Lower explosion limit: data not available
Upper explosion limit: data not available
Density: 1,532 g/cm³ at 25 °C
Water solubility: data not available
Partition coefficient: log Pow: 2.684

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Strong oxidizing agents, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Hydrogen fluoride, Hydrogen cyanide (hydrocyanic acid)

11. TOXICOLOGICAL INFORMATION

Acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
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

Potential health effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.

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: Not available

12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available
Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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.

14. TRANSPORT INFORMATION

ADR/RID
UN-Number: 1993 Class: 3 Packing group: III
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Pentafluorobenzonitrile)

IMDG
UN-Number: 1993 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Pentafluorobenzonitrile)
Marine pollutant: No

IATA
UN-Number: 1993 Class: 3 Packing group: III
Proper shipping name: Flammable liquid, n.o.s. (Pentafluorobenzonitrile)

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>Text</th>
<th>H226</th>
<th>R10</th>
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<tr>
<td>Flam. Liq</td>
<td>Flammable liquids</td>
<td></td>
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<tr>
<td></td>
<td>Flammable liquid and vapour.</td>
<td></td>
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<tr>
<td></td>
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Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information this document is based on the resent state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.