

**Safety Data Sheet**  
according to 1907/2006/EC, Article 31

Revision: 25.08.2010

Printing date 25.08.2010

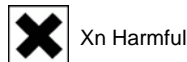
**1 Identification of substance****Product details**

**Trade name** **2-Cyano-3,5-difluoropyridine**  
**Stock number:** L19724

**Manufacturer/Supplier:** Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / Germany

E-mail: gcat@matthey.com  
www.alfa-chemcat.com

**Informing department:** Product safety department.  
**Emergency information:** Giftnotruf Universität Mainz / Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

**2 Hazards identification****Hazard designation:****Information pertaining to particular dangers for man and environment****GHS label elements****Prevention:****Response:**

R 22 Harmful if swallowed.  
R 36/38 Irritating to eyes and skin.



**Warning**  
H302 - Harmful if swallowed.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
P280 Wear protective gloves/clothing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**3 Composition/information on ingredients****Chemical characterization:**

**Designation: (CAS#)** 2-Cyano-3,5-difluoropyridine (CAS# 298709-29-2)

**4 First aid measures****After inhalation****After skin contact****After eye contact****After swallowing**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.  
Seek immediate medical advice.

**5 Fire fighting measures****Suitable extinguishing agents  
Special hazards caused by the material, its products of combustion or flue gases:****Protective equipment:**

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
Can be released in case of fire:  
Carbon monoxide and carbon dioxide  
Hydrogen fluoride (HF)  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide (HCN)  
Wear self-contained breathing apparatus.  
Wear full protective suit.

**6 Accidental release measures****Person-related safety precautions:****Measures for environmental protection:****Measures for cleaning/collecting:****Additional information:**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Do not allow material to be released to the environment without proper governmental permits.  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

**7 Handling and storage****Handling  
Information for safe handling:****Information about protection against explosions and fires:****Storage  
Requirements to be met by storerooms and containers:****Information about storage in one common storage facility:****Further information about storage conditions:**

Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.  
Keep ignition sources away - Do not smoke.  
No special requirements.  
Store away from oxidizing agents.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.

**8 Exposure controls and personal protection****Additional information about design of technical systems:****Components with critical values that require monitoring at the workplace:  
Additional information:****Personal protective equipment  
General protective and hygienic measures****Breathing equipment:****Protection of hands:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Not required.  
No data

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Use breathing protection with high concentrations.  
Check protective gloves prior to each use for their proper condition.

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|   |   |                    |
|---|---|--------------------|
| <b>Material of gloves</b>                 | 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. | (Contd. of page 1) |
| <b>Penetration time of glove material</b> | Impervious gloves   |                    |
| <b>Eye protection:</b>                    | Not determined  |                    |
| <b>Body protection:</b>                   | Safety glasses<br>Face protection<br>Protective work clothing.  |                    |

**9 Physical and chemical properties:**

|  |                           |  |
|--|---------------------------|--|
| <b>General Information</b>                     |                           |  |
| <b>Form:</b>                                   | Crystalline               |  |
| <b>Colour:</b>                                 | White                     |  |
| <b>Smell:</b>                                  | Not determined            |  |
| <b>Change in condition</b>                     |                           |  |
| <b>Melting point/Melting range:</b>            | 30-34°C                   |  |
| <b>Boiling point/Boiling range:</b>            | Not determined            |  |
| <b>Sublimation temperature / start:</b>        | Not determined            |  |
| <b>Flash point:</b>                            | Not applicable            |  |
| <b>Ignition temperature:</b>                   | Not determined            |  |
| <b>Decomposition temperature:</b>              | Not determined            |  |
| <b>Danger of explosion:</b>                    | Product is not explosive. |  |
| <b>Critical values for explosion:</b>          |                           |  |
| <b>Lower:</b>                                  | Not determined            |  |
| <b>Upper:</b>                                  | Not determined            |  |
| <b>Steam pressure:</b>                         | Not determined            |  |
| <b>Density</b>                                 | Not determined            |  |
| <b>Solubility in / Miscibility with Water:</b> | Insoluble                 |  |

**10 Stability and reactivity**

|  |   |
|--|---|
| <b>Thermal decomposition / conditions to be avoided:</b> | No decomposition if used and stored according to specifications.  |
| <b>Materials to be avoided:</b>                          | Oxidizing agents  |
| <b>Dangerous reactions:</b>                              | No dangerous reactions known  |
| <b>Dangerous products of decomposition:</b>              | Carbon monoxide and carbon dioxide<br>Hydrogen fluoride<br>Nitrogen oxides (NOx)<br>Hydrogen cyanide (prussic acid) |

**11 Toxicological information**

|  |  |
|--|--|
| <b>Acute toxicity:</b>                       |  |
| <b>Primary irritant effect:</b>              |  |
| <b>on the skin:</b>                          | Irritant for skin and mucous membranes.  |
| <b>on the eye:</b>                           | Irritant effect.   |
| <b>Sensitization:</b>                        | No sensitizing effect known.   |
| <b>Additional toxicological information:</b> | To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.<br>No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. |

**12 Ecological information:**

|   |   |
|---|---|
| <b>Additional ecological information:</b> |   |
| <b>General notes:</b>                     | Water hazard class 1 (Self-assessment): slightly hazardous for water.<br>Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.<br>Do not allow material to be released to the environment without proper governmental permits. |


**13 Disposal considerations**

|                              |   |
|------------------------------|---|
| <b>Product:</b>              |   |
| <b>Recommendation</b>        | Consult state, local or national regulations for proper disposal.<br>Hand over to disposers of hazardous waste.<br>Must be specially treated under adherence to official regulations. |
| <b>Uncleaned packagings:</b> |   |
| <b>Recommendation:</b>       | Disposal must be made according to official regulations.  |

**14 Transport information**

|   |  |
|---|--|
| <b>Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)</b> |  |
| <b>ADR/RID-GGVS/E Class:</b>  | None   |
| <b>Maritime transport IMDG/GGVSea:</b>                              |  |
| <b>IMDG/GGVSea Class:</b>   | None   |
| <b>Marine pollutant:</b>  | No   |
| <b>Air transport ICAO-TI and IATA-DGR:</b>                          |  |
| <b>ICAO/IATA Class:</b>   | None   |
| <b>Transport/Additional information:</b>                            | Not dangerous according to the above specifications. |

**15 Regulatory information**

|   |  |
|---|--|
| <b>Designation according to EC guidelines:</b>        |  |
| <b>Code letter and hazard designation of product:</b> |  Xn Harmful |
| <b>Risk phrases:</b>                                  | 22 Harmful if swallowed.<br>36/38 Irritating to eyes and skin.                                 |

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**Safety phrases:** 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
36/37 Wear suitable protective clothing and gloves.

**National regulations****Information about limitation of use:****Water hazard class:**

For use only by technically qualified individuals.  
Employment restrictions concerning young persons must be observed.

Water hazard class 1 (Self-assessment): slightly hazardous for water.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Contact:****Abbreviations and acronyms:**

Zachariah Holt

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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