

1 Identification of substance**Product details**

Trade name

3-Chloro-2,4,5,6-tetrafluoropyridine

Stock number:

A17285, L19294

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-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:



C Corrosive

Information pertaining to particular dangers for man and environment

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 34 Causes burns.

GHS label elements

**Danger**

H314 - Causes severe skin burns and eye damage.

**Warning**H302 - Harmful if swallowed.
H312 - Harmful in contact with skin.
H332 - Harmful if inhaled.

Prevention:

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 or doctor/physician.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

3-Chloro-2,4,5,6-tetrafluoropyridine (CAS# 1735-84-8)

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)
Hydrogen fluoride (HF)
Nitrogen oxides (NO_x)Possibly Hydrogen cyanide (HCN)
Wear self-contained breathing apparatus.
Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.

Additional information:

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:

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Storage
Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

No special requirements.

Store away from oxidizing agents.
Store away from strong bases.

Further information about storage conditions:

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:

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

Components with critical values that require monitoring at the workplace:

Not required.

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Additional information:	No data	(Contd. of page 1)
Personal protective equipment General protective and hygienic measures	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.	
Breathing equipment: Protection of hands: Material of gloves	Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition. 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. Impervious gloves	
Penetration time of glove material Eye protection:	Not determined Safety glasses Face protection	
Body protection:	Protective work clothing.	

9 Physical and chemical properties:

General Information		
Form:	Liquid	
Colour:	Colourless	
Smell:	Not determined	
Change in condition		
Melting point/Melting range:	Not determined	
Boiling point/Boiling range:	118-121°C	
Sublimation temperature / start:	Not determined	
Flash point:	> 110°C	
Ignition temperature:	Not determined	
Decomposition temperature:	Not determined	
Danger of explosion:	Product is not explosive.	
Critical values for explosion:		
Lower:	Not determined	
Upper:	Not determined	
Steam pressure:	Not determined	
Density at 20°C	1.641 g/cm ³	
Solubility in / Miscibility with Water:	Not miscible or difficult to mix	

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Oxidizing agents Bases
Dangerous reactions:	No dangerous reactions known
Dangerous products of decomposition:	Carbon monoxide and carbon dioxide Hydrogen chloride (HCl) Hydrogen fluoride Nitrogen oxides (NO _x) Possibly Hydrogen cyanide (HCN)

11 Toxicological information

Acute toxicity:	
Primary irritant effect: on the skin: on the eye:	Corrosive effect on skin and mucous membranes. Strong corrosive effect.
Sensitization:	No sensitizing effect known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Danger by skin resorption. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.


12 Ecological information:

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

13 Disposal considerations

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

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)	
	
ADR/RID-GGVS/E Class:	8 (C9) Corrosive substances.
Kemler Number:	80
UN-Number:	1760

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

Revision: 17.08.2010

Printing date 17.08.2010

Trade name **3-Chloro-2,4,5,6-tetrafluoropyridine**

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Packaging group:	III
Label	8
Designation of goods:	1760 CORROSIVE LIQUID, N.O.S. (3-Chloro-2,4,5,6-tetrafluoropyridine)
Limited quantities (LQ)	LQ7
Transport category	3
Tunnel restriction code	E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class:	8
UN Number:	1760
Label	8
Packaging group:	III
Marine pollutant:	No
Correct technical name:	CORROSIVE LIQUID, N.O.S. (3-Chloro-2,4,5,6-tetrafluoropyridine)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	8
UN/ID Number:	1760
Label	8
Packaging group:	III
Correct technical name:	CORROSIVE LIQUID, N.O.S. (3-Chloro-2,4,5,6-tetrafluoropyridine)

UN "Model Regulation":

UN1760, CORROSIVE LIQUID, N.O.S., 8, III

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

C Corrosive

Risk phrases:

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
34 Causes burns.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations**Information about limitation of use:**

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

Water hazard class:

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:** Zachariah Holt**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)
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)

GB