

Safety Data Sheet per OSHA HazCom 2012

Newewood ON 03/20/20
1 Identification
Product identifier Product name: 2-Fluoro-5-(trifluoromethyl)benzonitrile
Stock number: B20163, L10053
CAS Number: 4088-84-0
Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development
Details of the supplier of the safety data sheet Manufacturer/Supplier:
Alfa Aesar Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street
Ward Hill. MA 01835-8099
Tel: 800-343-0660 Fax: 800-322-4757
Email: tech@alfa.com www.alfa.com
Information Department: Health, Safety and Environmental Department Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.
2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS06 Skull and crossbones
Acute Tox. 3 H331 Toxic if inhaled.
GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin. Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation. Hazards not otherwise classified No information known.
Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms
GHS06
Signal word Danger
Hāzard statements H302+H312 <u>H</u> armful if swallowed or in contact with skin.
H331 Toxic if inhaled. H315 Causes skin irritation.
H319 Causes serious eye irritation. H335 May cause respiratory irritation. Precautionary statements
Precautionary statements P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray. 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.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
D1B - Toxic material causing immediate and serious toxic effects D2B - Toxic material causing other toxic effects
Classification system
Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System)
HEALTH 2 IFRE 1 Fire 1
FIRE 1 Flammability = 1 REACTIVITY 1 Physical Hazard = 1
Other hazards Results of PBT and vPvB assessment
PBT: Not applicable. vPvB: Not applicable.
3 Composition/information on ingredients
Chemical characterization: Substances
CAS# Description: 4088-84-0 2-Fluoro-5-(trifluoromethyl)benzonitrile us.
US, Contd. on page

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Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry coditions in well sealed containers. Specific end use(s) No further relevant information available. 8 Exposure controls/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. Control parameters Components with limit values that require monitoring at the workplace: Not required. Additional information: No data Exposure controls Personal protective equipment General protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all solied and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain a ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: She ty glasses Body protection: Protective work clothing.	Conditions for safe storage, including any incompatibilities	
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USA	Body protection: Protective work clothing.	1104
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Product name: 2-Fluoro-5-(trifluoro	omethyl)benzonitrile	
	(Contd. of page	
9 Physical and chemical propertie	25	
Information on basic physical and constraints of the second secon	hemical properties	
Form: Odor:	Liquid Not determined	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:	Not determined 185-187 °C (365-369 °F) Not determined	
Flash point:	Not determined	
Flammability (solid, gaseous) Ignition temperature:	Not determined. Not determined	
Decomposition temperature:	Not determined	
Auto igniting:	Not determined. Breduct dees not present on evaluation bezard	
Danger of explosion: Explosion limits:	Product does not present an explosion hazard.	
Lower: Upper:	Not determined Not determined	
Vapor pressure:	Not determined	
Density: Relative density	Not determined Not determined.	
Vapor density	Not determined.	
Evaporation rate Solubility in / Miscibility with	Not determined.	
Water: Partition coefficient (n-octanol/water Viscosity:	Not determined r): Not determined.	
dynamic:	Not determined.	
kìnematic: Other information	Not determined. No further relevant information available.	
Reactivity No information known. Chemical stability Stable under recon Thermal decomposition / conditions Possibility of hazardous reactions N Conditions to avoid No further releva Incompatible materials: Oxidizing age Hazardous decomposition products Carbon monoxide and carbon dioxide Hydrogen fluoride Nitrogen oxides Hydrogen cyanide	nt information available.	
11 Toxicological information Information on toxicological effects Acute toxicity: Harmful if inhaled. Harmful in contact with skin. Harmful in soulowed. Danger through skin absorption. LD/L C50 values that are relevant for classification: No data Skin invitation or corrosion: Causes skin invitation. Eye invitation or corrosion: Causes serious eye invitation. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Germ cell mutagenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Subacute to chronic toxicity: No lifects known. Subacute to chronic toxicity: Nutriles may resemble cyanides in toxicity. Exposure to nitriles may cause increased salivation, flushing of the face, eye and respiratory tract irritation, shallow respiration, nausea, vomiting, weakness, headache and diarrhea. Jaundice, anemia, and leucocytosis has been reported in some cases. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.		
12 Ecological information Toxicity Aquatic toxicity: No further relevant in Persistence and degradability No fur Bioaccumulative potential No further Mobility in soil No further relevant info Additional ecological information: General notes:	rther relevant information available. r relevant information available.	

Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

(Contd. of page 3)

	(Contd. of page 3)		
3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.			
14 Transport information			
UN-Number DOT, IMDG, IATA	UN3276		
UN proper shipping name			
DOT IN G IMDG, IATA	Nitriles, liquid, toxic, n.o.s. (2-Fluoro-5-(trifluoromethyl)benzonitrile) NITRILES, LIQUID, TOXIC, N.O.S. (2-Fluoro-5-(trifluoromethyl)benzonitrile)		
Transport hazard class(es) DOT			
Class Label	6.1 Toxic substances. 6.1		
Class Label	6.1 (T1) Toxic substances 6.1		
INDG, IATA	0.1		
Class Label	6.1 Toxic substances. 6.1		
Packing group DOT, IMDG, IATA			
DOT, IMDG, IATA Environmental hazards:	III Not applicable.		
Special precautions for user	Warning: Toxic substances		
Transport in bulk according to Annex II of MARPOL7	73/78 and the IBC Code Not applicable.		
Transport/Additional information: DOT Marine Pollutant (DOT):	No		
UN "Model Regulation":	UN3276, Nitriles, liquid, toxic, n.o.s. (2-Fluoro-5-(trifluoromethyl)benzonitrile), 6.1, III		
Hazard pictograms GHS06 Signal word Danger Hazard statements H302+H312 Harmful if swallowed or in contact with skin. H331 Toxic if inhaled.	ı.		
 H315 Causes skin irritation. H315 Causes serious eye irritation. H315 May cause respiratory irritation. Precautionary statements P261 Avoid breathing dust/fume/gas/mist/vapours/spray. 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. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Mational regulations This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricte to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes. SARA Section 313 (specific toxic chemical listings) Substance is not listed. 			
California Proposition 65 Prop 65 - Chemicals known to cause cancer Substan Prop 65 - Developmental toxicity Substance is not liste Prop 65 - Developmental toxicity, female Substance is Prop 65 - Developmental toxicity, male Substance is Information about limitation of use: For use only by te Other regulations, limitations and prohibitive regulat Substance of Very High Concern (SVHC) according to The conditions of restrictions according to Article 67 market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Auto Chemical safety assessment: A Chemical Safety Asses	ted. is not listed. not listed. echnically qualified individuals. tions to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. 7 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the thorisation for use) Substance is not listed.		
	(Contd. on page		

(Contd. of page 4)

USA

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. conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the use Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / - Abbreviations and acronyms: ADB: 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 DOT: US Department of Transportation IATA: International Air Transport Association CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration Agercent LD50: Lethal concentration Agercent LD50: Lethal concentration and review Bioaccumulative ACGIH: American Abstrate and health Administration (USA) MTP: National Toxicology Program (USA)