



1 Identification
Product identifier
Product name: 3-Chloro-2-fluorobenzoic acid
Stock number: B20603, L10771 CAS Number:
161957-55-7 <b>Relevant identified uses of the substance or mixture and uses advised against.</b> 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
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)
GHS07
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
$\wedge$
GHS07
Signal word Warning Hazard statements
H315 Causes skin irritation. H319 Causes serious eye irritation.
H335 May cause respiratory irritation. Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vanours/sprav
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
D2B - Toxic material causing other toxic effects
(T)
Classification system HMIS ratings (scale 0-4)
(Hazardouš Materials Identification System)
FIRE 1 Flammability = 1
REACTIVITY D 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: 161957-55-7 3-Chloro-2-fluorobenzoic acid
4 First-aid measures
Description of first aid measures
After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.
Seek îmmediate medical advice. After skin contact
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.
After swallowing Seek medical treatment.
(Contd. on page 2)

## Product name: 3-Chloro-2-fluorobenzoic acid (Contd. of page 1) 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 Fire-fighting measures Extinguishing media Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Hydrogen chloride (HCI) Hydrogen fluoride (HF) Carbon monoxide and carbon dioxide Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. 6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. 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 Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known. 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: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions 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: product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data Exposure controls Exposure controls Personal 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 soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the aves and exin. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. **Breathing equipment:** Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. 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: Safety glasses Body protection: Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Form: Solid Odor: Not determined Odor threshold: Not determined pH-value: Not applicable Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Not determined Not determined Not determined Flash point: Not applicable Flammability (solid, gaseous) Not determined. (Contd. on page 3)

## Product name: 3-Chloro-2-fluorobenzoic acid

Ignition temperature: Not determined Decomposition temperature: Not determined Anto gining: Not determined Anto gining: Not determined Anto gining: Not determined Decomposition temperature: Not determined Upper: Not determined Upper: Not determined Decomposition temperature: Not determined Upper: Not determined Decomposition temperature: Not determined Decomposition coefficient (n-octanol/water): Not determined Particine coefficient (n-octanol/water): Not determined Particine coefficient (n-octanol/water): Not determined Decomposition coefficient (n-octanol/water): Not determined Particine coefficient (n-octanol/water): Not applicable Other information Anome. Cherring and the state recommended storage conditions. Cherring and	Product name: 3-Chloro-2-fluoroben	IZOIC ACIÓ			
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Participant coefficient (n-cetanol/water): Not determined. Version Ver	Solubility in / Miscibility with		,		
Viscosity: We manufactor Other information Mo lufther relevant information available. Stability and reactivity Reactivity (v) information information available. Stability and reactivity Reactivity (v) information information available. Reactivity (v) information information information available. Reactivity (v) information Information in nucleotic information Reactivity (v) information Information information Reactivity (v) information	Partition coefficient (n-octanol/water):	Not determined	1		
Minematic: Mod applicable. No tither reference in information available. Stability and reactivity Reactivity No information recommended storage conditions. Thermal decompation (conditions to be available. Reactivity No information is be available. Shin inframation on toxicological effects Activity The information is available. Shin infration or correspin: Causes shin infration. Severite target organ system toxicity - separate exposure: No a flast is available from the EPA, IARC, NTP, OSHA or ACGIH. Germ coefficient of the set on considence causes shin infration. Specific target organ system toxicity - separate exposure: No a flast is invariable. Sub infration or correspin: Causes shin infration. Specific target organ system toxicity - separate exposure: No a flast is explaible from the EPA, IARC, NTP, OSHA or ACGIH. Germ coeffic target organ system toxicity - separate explosing: matching. Specific target organ system toxicity - separate explosing: the acute and channic toxicity of this substance is not fully known. Ecological Information Toxicity Realistic toxicity: No affects known. Additional toxicity - the affects from available. Realistic toxicity: No further relevant information available. Realistic toxicity: No further relevant informa	Viscosity:		1		
Other information         No further relevant information available.           Stability and reactivity         Reactivity is information known commended strage conditions.           Thermal decomposition / conditions to be avoited: Eccomposition will not occur if used and stored according to specifications.         Provide information           Conditions to avoid (b) types relevant information available.         Head You State and Stored Stores (Conditions in the avoited information available.           Read You Stores (Conditions to be avoited information available.         Head You Stores (Conditions in the avoited information available.           Toxicological Information         Conditions (Conditions (Conditions).         Conditions (Conditions).           Conditions (Conditions).         Conditions (Conditions).         Conditions (Conditions).           Conditions (Conditions).         Conditions (Conditions).         Conditions.           Conditions (Conditions).         Conditions (Conditions).         Conditions.           Conditions (Conditions).         Conditions.         Conditions.           Condin mategeneticity. No	kinematic:	Not applicable.	1		
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Information on toxicological effects Low To effects known, LDU.CSO values are relevant for classes skin initiation, Sonstituation: No sensiticing effects known, Garcinogenicity: No effects known, Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - new nown Additional toxicity - No threads be nown. Subscript to xingle with the state of our knowledge the acute and chronic toxicity of this substance is not fully known. Ecological information Toxicity Aquatic toxicity: No further relevant information available. Bioaccumulative potential NO turther relevant information available. Bioaccumulative potential NO turther relevant information available. Center of an own malerial to be released to the environment without proper governmental permits. Center of ansets on lurther relevant information available. Toxicity Perf Not applicable Performent. Center of and VPU assessment Performation Consideration Conside	Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions No dangerous reactions known Conditions to avoid No further relevant information available. Incompatible materials: Oxidizing agents Hazardous decomposition products: Hydrogen chloride (HCI) Hydrogen filoride				
Toxicity       No intribution of the information available.         Persistence and degradability No intribution available.       Analite information information available.         Mobility in soil No further relevant information available.       Mobility in soil No further relevant information available.         Mobility in soil No further relevant information available.       Mobility in soil No further 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 quantilies to reach ground water, water course or sewage system.       Avaoid transfer info the environment.         Results of PBT and vPvB assessment       PBT: Not applicable.       VPW: Not applicable.         Dither adverse effects No further relevant information available.       VPW: Not applicable.       VPW: Not applicable.         Disposal considerations       Recommendation Consult state, local or national regulations to ensure proper disposal.       General notes:         Presonmendation:       Disposal must be made according to official regulations.       Transport information         Un-Number       Dort, ADN, IMDG, IATA       Not applicable         DOT, ADN, MDG, IATA       Not applicable       Not applicable         DoT, ADN, MDG, IATA       Not applicable       Secial precations:       Secial precations: <t< th=""><th>Information on toxicological effects Acute toxicity: No effects known. LD/LC50 values that are relevant for cl Skin irritation or corrosion: Causes sen Sensitization: No sensitizing effects kno Germ cell mutagenicity: No effects know Carcinogenicity: No classification data o Reproductive toxicity: No effects know Specific target organ system toxicity - Specific target organ system toxicity - Aspiration hazard: No effects known.</th><th>kin irritation. rious eye irritation. own. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. vn. <b>- repeated exposure:</b> No effects known. <b>- single exposure:</b> May cause respiratory irritation.</th><th></th></t<>	Information on toxicological effects Acute toxicity: No effects known. LD/LC50 values that are relevant for cl Skin irritation or corrosion: Causes sen Sensitization: No sensitizing effects kno Germ cell mutagenicity: No effects know Carcinogenicity: No classification data o Reproductive toxicity: No effects know Specific target organ system toxicity - Specific target organ system toxicity - Aspiration hazard: No effects known.	kin irritation. rious eye irritation. own. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. vn. <b>- repeated exposure:</b> No effects known. <b>- single exposure:</b> May cause respiratory irritation.			
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.         Transport information         UN-Number DOT, ADN, IMDG, IATA       Not applicable         UN proper shipping name DOT, ADN, IMDG, IATA       Not applicable         UN proper shipping name DOT, ADR, IMDG, IATA       Not applicable         DT, ADN, IMDG, IATA       Not applicable         UN, Number, IATA       Not applicable         DT, ADN, IMDG, IATA       Not applicable         DT, ADR, IMDG, IATA       Not applicable         DT, ADR, IMDG, IATA       Not applicable         DT, ADR, IMDG, IATA       Not applicable         DOT, ADR, ADR, IMDG, IATA       Not applicable         DOT, MITA       Not applicable         Special precautions for user       Not applicable         Environmental hazards:       Not applicable         Special precautions for user       Not applicable         Transport in bulk according to Annex II of MARPOLT3/78 and the IBC Code Not applicable.	Toxicity Aquatic toxicity: No further relevant info Persistence and degradability No furth Bioaccumulative potential No further re Mobility in soil No further relevant inforr Additional ecological information: General notes: Do not allow material to be released to th Do not allow undiluted product or large q Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.	her relevant information available. relevant information available. rmation available. the environment without proper governmental permits. quantities to reach ground water, water course or sewage system. It			
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.         Transport information UN-Number DOT, ADN, IMDG, IATA       Not applicable         UN proper shipping name DOT, ADN, IMDG, IATA       Not applicable         Transport hazard class(es)       Not applicable         DOT, ADR, ADN, IMDG, IATA       Not applicable         Packing group DOT, IMDG, IATA       Not applicable         Furinsport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Not applicable.	13 Disposal considerations				
UN-Number       Not applicable         DOT, ADN, IMDG, IATA       Not applicable         UN proper shipping name       Not applicable         DOT, ADN, IMDG, IATA       Not applicable         Transport hazard class(es)       Not applicable         DOT, ADR, ADN, IMDG, IATA       Not applicable         Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Forvironmental hazards:       Not applicable         Special precautions for user       Not applicable.         Transport in bulk according to Annex II of MARPOLT3/78 and the IBC Code Not applicable.       Not applicable.	Waste treatment methods Recommendation Consult state, local of Uncleaned packagings:				
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UN proper shipping name DOT, ADN, IMDG, IATA Not applicable Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class Not applicable Packing group DOT, IMDG, IATA Not applicable Environmental hazards: Not applicable Special precautions for user Not applicable. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.		Not applicable			
Transport hazard class(es)         DOT, ADR, ADN, IMDG, IATA         Class       Not applicable         Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Environmental hazards:       Not applicable.         Special precautions for user       Not applicable.         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Not applicable.					
DOT, ADR, ADN, IMDG, IATA       Not applicable         Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Environmental hazards:       Not applicable.         Special precautions for user       Not applicable.         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Not applicable.	Transport hazard class(es)				
Packing group       Not applicable         DOT, IMDG, IATA       Not applicable         Environmental hazards:       Not applicable.         Special precautions for user       Not applicable.         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	DOT, ADR, ADN, IMDG, IATA	Not applicable	_		
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Special precautions for user         Not applicable.           Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.					
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.					
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			(Contd. on page USA		

Safety Data Sheet per OSHA HazCom 2012

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USA -

	Reviewed off 04/21/2003
Product name: 3-Chloro-2-fluor	obenzoic acid
	(Contd. of page 3)
Transport/Additional informatio	n:
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	
15 Regulatory information Safety, health and environment GHS label elements The product Hazard pictograms	al regulations/legislation specific for the substance or mixture is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
GHS07 Signal word Warning	
Hāzard statements H315 Causes skin irritation. H319 Causes serious eye irritation H335 May cause respiratory irritation Precautionary statements P261 Avoid breathin P280 Wear protectiv P305+P351+P338 IF IN EYES: RI P304+P340 IF INHALED: F P405 Store locked uµ P501 Dispose of con	ion. g dust/fume/gas/mist/vapours/spray. e gloves/protective clothing/eye protection/face protection. inse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove person to fresh air and keep comfortable for breathing.
to research and development only product must not be used for com SARA Section 313 (specific toxi California Proposition 65 Prop 65 - Chemicals known to c Prop 65 - Developmental toxicit Prop 65 - Developmental toxicit Prop 65 - Developmental toxicit Information about limitation of i	y, female Substance is not listed. y, male Substance is not listed. Jse: For use only by technically qualified individuals.
Other regulations, limitations an Substance of Very High Concer. The conditions of restrictions a market and use must be observ Substance is not listed. Annex XIV of the REACH Regula	nd prohibitive regulations n (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. ccording to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the
information to ensure proper use a conformance with this Material Sa	ation only as a supplement to other information gathered by them, and should make independent judgement of suitability of this and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in fety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Date of preparation / last revision Abbreviations and acronyms: ADR: Accord européen sur le transport des n DOT: US Department of Transportation CAS: Chemical Abstracts Service (division of HMIS: Hazardous Materials Identification Sys WHMIS: Workplace Hazardous Materials Info LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent VPUB: very Persistent and very Bioaccumulat ACGIH: American Conference of Governmen OSHA: Occupational Safety and Health Adm NTP: National Toxicology Program (USA) MarC: International Agency for Research on I	narchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) the American Chemical Society) tem (USA)

USHA: Uccupational Safety and Health Administratio NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)