

Safety Data Sheet per OSHA HazCom 2012

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USA	Chemical characterization: Substances CAS# Description:
	201849-14-1 2-Bromo-6-chloro-4-fluoroaniline USA (Contd. on page 2)

(Contd. on page 2)

(Contd. of page 1) 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. After skin contact After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Mact important currentees and effects, both agute and delayed Methomoglebingmin. Most important symptoms and effects, both acute and delayed Methemoglobinemia Indication of any immediate medical attention and special treatment needed No further relevant information available. 5 Fire-fighting measures 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: Carbon monoxide and carbon dioxide Hydrogen bromide (HBr) Nitrogen oxides (NOx) Hydrogen chloride (HCl) Hydrogen filuoride (HF) Advice for firefighters Protective equipment: Wear self-contained respirator. 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: Dispose of contaminated material as waste according to section 13. 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: Not required. Additional information: No data Exposure controls Personal protective equipment 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 eyes and skin. Maintain an ergonomically appropriate working environment Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves The period s gives prior to each use for their proper condition. 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 (Contd. on page 3)

Product name: 2-Bromo-6-chloro-4-fluoroaniline

		(Contd. of page 2
Color: Odor: Odor threshold:	Yellowish Not determined Not determined.	
pH-value:	Not applicable.	
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:	54-57 °C (129-135 °F) Not determined Not determined	
Flash point: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	> 110 °C (> 230 °F) Not determined Not determined Not determined Not determined.	
Danger of explosion: Explosion limits:	Product does not present an explosion hazard.	
Lower: Upper:	Not determined Not determined	
Vapor pressure: Density: Relative density	Not applicable. Not determined Not determined.	
Vapor density Evaporation rate Solubility in / Miscibility with	Not applicable. Not applicable.	
Water: Partition coefficient (n-octanol/water	Insoluble): Not determined.	
Viscosity: dynamic: kinematic:	Not applicable. Not applicable.	
Other information	No further relevant information available.	

10 Stability and reactivity

Reactivity No information known. 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: Hazardous decomposition products: Carbon monoxide and carbon dioxide Hydrogen bromide Nitrogen oxides Hydrogen chloride (HCl) Hydrogen fluoride 11 Toxicological information Information on toxicological effects

Acute toxicity: Harmful in contact with skin. Harmful if swallowed. Harmful if swallowed. Toxic if inhaled. Danger through skin absorption. LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes serious eye irritation. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: No effects known. Carcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Subacute to chronic toxicity: Subacute to chronic toxicity: Absorption into the body may lead to the formation of methemoglobin, producing cyanosis, and marked fall in blood pressure leading to collapse, coma and possibly death. Onset may be delayed 2-4 hours or longer. 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 information available. Persistence and degradability No further relevant information available. Bioaccumulative potential 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 quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. 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.

13 Disposal considerations

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.

Safety Data Sheet per OSHA HazCom 2012

Product name: 2-Bromo-6-chloro-4-fluoroaniline

Uncleaned packagings:

(Contd. of page 3)

Uncleaned packagings: Recommendation: Disposal must be made according to off	ficial regulations.
14 Transport information	
UN-Number DOT, IMDG, IATA	UN2811
UN proper shipping name	
DOT I III C IMDG, IATA	Toxic solids, organic, n.o.s. (2-Bromo-6-chloro-4-fluoroaniline) TOXIC SOLID, ORGANIC, N.O.S. (2-Bromo-6-chloro-4-fluoroaniline)
Transport hazard class(es)	
DOT	
100C	
Class	6.1 Toxic substances.
Label Class	6.1 6.1 (T2) Toxic substances
Label IMDG, IATA	6.1
$\langle \rangle$	
Class	6.1 Toxic substances.
Label	6.1
Packing group DOT, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Toxic substances
Transport in bulk according to Annex II of MARPOL73/7	8 and the IBC Code Not applicable.
Transport/Additional information:	
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN2811, Toxic solids, organic, n.o.s. (2-Bromo-6-chloro-4-fluoroaniline), 6.1, III
GHS06 Signal word Danger Hazard statements H302+H312 Harmful if swallowed or in contact with skin.	
H331Toxic if inhaled.H315Causes skin irritation.H319Causes serious eye irritation.H335May cause respiratory irritation.	
Precautionary statements	
P261 Avoid breathing dust/fume/gas/mist/vapo P280 Wear protective gloves/protective clothin	purs/spray. g/eye protection/face protection. for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water P304+P340 IF INHALED: Remove person to fresh air	for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.	ance with local/regional/national/international regulations.
National regulations	
product must not be used for commercial purposes or in form SARA Section 313 (specific toxic chemical listings) Sub-	on Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricte ed by or directly under the supervision of a technically qualified individual as defined by TSCA. This mulations for commercial purposes. stance is not listed.
California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is	's not listed.
Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity female Substance is no	nt listed
Prop 65 - Developmental toxicity, male Substance is not I	listed.
Information about limitation of use: For use only by techn Other regulations, limitations and prohibitive regulation	וויסמוץ קטמוחופט וווטויוטטמוג. וא
Substance of Very High Concern (SVHC) according to the The conditions of restrictions according to Article 67 and	he REACH Regulations (EC) No. 1907/2006. Substance is not listed. Ind Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the
market and use must be observed. Substance is not listed.	
Annex XIV of the REACH Regulations (requiring Authori Chemical safety assessment: A Chemical Safety Assessn	isation for use) Substance is not listed.
	nent nas not been Camed Out.
information to ensure proper use and protect the health and	t to other information gathered by them, and should make independent judgement of suitability of this I safety of employees. This information is furnished without warranty, and any use of the product not in nbination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Department	
Date of preparation / last revision 11/24/2015 / -	(Contd. on page

(Contd. of page 4)

USA

Product name: 2-Bromo-6-chloro-4-fluoroaniline

- Abbreviations and acronyms:

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

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

 ICAO: International Civil Aviation Organization

 ICAO: Trechnical Instructions by the "International Civil Aviation Organization" (ICAO)

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

 IMDG: International Air Transport Association

 IATA: International Air Transport Association

 CAO: Trensportation

 IATA: International Air Transportation

 IATA: International Air 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, 50 percent

 UPVB: very Persistent and very Bioaccumulative

 ACGHH: American Conference of Governmental Industrial Hygienists (USA)

 OSH: Occupational Safety and Health Administration (USA)

 NTP: National Toxicology Program (USA)

 MAC: International Protection Agency (USA)