

Safety Data Sheet per OSHA HazCom 2012

1 Identification Product identifier Product name: Methyl 2-amino-5-chlorobenzoate Stock number: L20187 CAS Number: 5202-89-1 EC number: 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. Inerrito Fisher Scheman C. 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 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/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. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. P405 WHMIS classification D2B - Toxic material causing other toxic effects Ţ Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 1Flammàbility = 1 TIVITY 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: 5202-89-1 Methyl 2-amino-5-chlorobenzoate Identification number(s): EC number: 225-992-4 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 Immediately wash with water and soap and rinse thoroughly. (Contd. on page 2)

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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

Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special freatment 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: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx) Hydrogen chloride (HCI) 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: Not required. Additional information: No data Exposure controls Personal protective equipment The usual 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. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves The protective gloves 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. **Penetration time of glove material (in minutes)** Not determined 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: Powder Color: Cream Not determined Odor: Odor threshold: Not determined pH-value: Not applicable. Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: 67-70 °C (153-158 °F) 168-170 °C (334-338 °F) (1 mmHg) Not determined Flash point: Not applicable

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roduct name: Methyl 2-amino-5-c	chlorobenzoate	
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Flammability (solid associus)	Not determined	(Contd. of page
Flammability (solid, gaseous) Ignition temperature:	Not determined. Not determined	
Decomposition temperature:	Not determined	
Auto igniting:	Not determined.	
Danger of explosion: Explosion limits:	Product does not present an explosion hazard.	
Explosion limits: Lower:		
Lower: Upper:	Not determined Not determined	
Vapor pressure:	Not applicable.	
Density:	Not determined	
Relative density	Not determined.	
Vapor density Evaporation rate	Not applicable. Not applicable	
Solubility in / Miscibility with	Not applicable.	
Water:	Insoluble	
Partition coefficient (n-octanol/wate		
Viscosity:		
dynamic: kinematic:	Not applicable. Not applicable.	
Other information	No further relevant information available.	
Stability and reactivity		
Reactivity No information known.		
Chemical stability Stable under reco	rommended storage conditions.	
Thermal decomposition / condition	ns to be avoided: Decomposition will not occur if used and stored according to specifications.	
Possibility of hazardous reactions	s No dangerous reactions known	
Conditions to avoid No further relevant	vant information available.	
Incompatible materials: Oxidizing ac Hazardous decomposition product Carbon monoxide and carbon dioxide	igents	
Carbon monoxide and carbon dioxide		
Nitrogen oxides	<i>y</i>	
Hydrogen chloride (HCI)		
Taxical enternation		
Toxicological information		
Information on toxicological effects	ts	
Acute toxicity: No effects known.		
LD/LC50 values that are relevant fo	or classification: No data	
Skin irritation or corrosion: Causes Eye irritation or corrosion: Causes	s skin irritation.	
Sonsitization No sensitizing effects		
Sensitization: No sensitizing effects Germ cell mutagenicity: No effects I		
Carcinogenicity: No classification da	lata on carcinogenic properties of this material is available from the EPA. IARC, NTP, OSHA or ACGI	Н.
Reproductive toxicity: No effects kn	nown.	
Specific target organ system toxici	city - repeated exposure: No effects known.	
Aspiration hazard: No effects known	city - single exposure: May cause respiratory irritation.	
Subacute to chronic toxicity: No eff	effects known.	
Additional toxicological informatio	on: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	
Field starting		
Ecological information		
Toxicity	· · · · · · · · · · · · · · · · · · ·	
Aquatic toxicity: No further relevant	t information available.	
Persistence and degradability No fu Bioaccumulative potential No furthe	urther relevant information available.	
Bioaccumulative potential No furthe Mobility in soil No further relevant in	er relevant information available.	
Additional ecological information:	IIOIIIIduon available.	
General notes:		
Do not allow material to be released t	to the environment without proper governmental permits.	
Avoid transfer into the environment. Results of PBT and vPvB assessme	· · · · ·	
PBT: Not applicable.	ient	
vPvB: Not applicable.		
Other adverse effects No further rele	levant information available.	
Planael considerations		
Disposal considerations		
Waste treatment methods	· · · · ·	
Recommendation Consult state, loca	cal or national regulations to ensure proper disposal.	
Uncleaned packagings: Recommendation: Disposal must be	ne made according to official regulations.	
Recommendation. Disposa		
Transport information		_
4 Transport information Not a hazardous material for transpor	prtation.	
UN-Number		
DOT, ÎMDĞ, IATA	None	
UN proper shipping name DOT, IMDG, IATA		
	None	
Transport hazard class(es)		
DOT, ADR, IMDG, IATA		
Class	None	
Packing group DOT, IMDG, IATA	None	
<u> </u>		
Environmental hazards:	Not applicable.	
Environmental hazards: Special precautions for user	Not applicable. Not applicable.	(Contd. on pag

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duct name: Methyl 2-amino-5-chlorobenzoate	
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Transport in bulk according to Annex II of MARPOL73/7	78 and the IBC Code Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
DOT Marine Pollutant (DOT):	No
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Regulatory information	
Safety, health and environmental regulations/legislation GHS label elements The product is classified and labeled i Hazard pictograms	n specific for the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
$\langle \mathbf{I} \rangle$	
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/vapo P280 Wear protective gloves/protective clothin	ng/evé protection/face protection.
P305+P351+P338 IF IN EYES: Rinše cautiously with water P304+P340 IF INHALED: Remove person to fresh ai P405 Store locked up.	Tor several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. ir and keep comfortable for breathing.
P501 Dispose of contents/container in accorda National regulations	ance with local/regional/national/international regulations.
This product is not listed in the U.S. Environmental Protection to research and development only. This product must be us 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 restrict sed by or directly under the supervision of a technically qualified individual as defined by TSCA. This mulations for commercial purposes. sstance is not listed.
California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance i Prop 65 - Developmental toxicity Substance is not listed.	is not listed.
Prop 65 - Developmental toxicity, female Substance is not Prop 65 - Developmental toxicity, male Substance is not Information about limitation of use: For use only by techn	listed. nically qualified individuals
Other regulations, limitations and prohibitive regulation	no any quanned management is The 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 th
market and use must be observed.	nd Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on th
Substance is not listed. Annex XIV of the REACH Regulations (requiring Author Chemical safety assessment: A Chemical Safety Assessment	r isation for use) Substance is not listed. ment has not been carried out.
Other information	
Employers should use this information only as a supplemen information to ensure proper use and protect the health and	nt 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 11/23/2015 / - Abbreviations and acronyms:	
PID: Poalement international concernant le transport des marchandises dange	reuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) Association" (IATA)
ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization IMDG: International Maritime Code for Dangerous Goods	n" (ICAO)
The registering international Concernation for an use of the concentration and uses a digeneration of the concentration of the conce	
WHMIS: Workplace Hazardous Materials Information System (CSA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent	
vPvB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA)	
NTP: National Toxicology Program (USA)	