

Safety Data Sheet per OSHA HazCom 2012

1 Identification Product identifier Product name: Ethyl 2-aminothiazol-4-acetate Stock number: H54717 **CAS Number**: 53266-94-7 EC number: 258-452-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: 53266-94-7 Ethyl 2-aminothiazol-4-acetate Identification number(s): EC number: 258-452-1 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 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 Sulfur oxides (SOX) Nitrogen oxides (NOX) 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 product to reach sewage system or any water course. 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.

Not determined

#### 7 Handling and storage

Sublimation temperature / start:

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: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. 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 eyes and skin. Maintain an 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. 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: Solid Color: Yellow to pale brown Odor: Odor threshold: Not determined Not determined. pH-value: Not applicable. Change in condition Melting point/Melting range: Boiling point/Boiling range: Not determined Not determined

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Product name: Ethyl 2-aminothiazol·	l-4-acetate	
		(Contd. of page 2)
Flammability (solid, gaseous) Ignition temperature:	Not determined. Not determined	
Ďecomposition temperature: Auto igniting:	Not determined Not determined.	
Danger of explosion: Explosion limits:	Not determined.	
Lower: Upper:	Not determined Not determined	
Upper: Vapor pressure: Density:	Not determined Not determined	
Density: Relative density Vapor density	Not determined. Not applicable.	
Vapor density Evaporation rate Solubility in / Miscibility with	Not applicable. Not applicable.	
Water: Partition coefficient (n-octanol/water):	Not determined ): Not determined	
Viscosity: dynamic:	Not applicable.	
kinematic: Other information	Not applicable. No further relevant information available.	
10 Stability and reactivity Reactivity No information known		
Reactivity No information known. Chemical stability Stable under recomm Thermal decomposition / conditions to	mended storage conditions. <b>to be avoided:</b> Decomposition will not occur if used and stored according to specifications.	
Possibility of hazardous reactions Re Conditions to avoid No further relevant	eacts with strong oxidizing agents	
Incompatible materials: Oxidizing ager Hazardous decomposition products:		
Carbon monoxide and carbon dioxide Sulfur oxides (SOx)		
Nitrogen oxides		
11 Toxicological information		
Information on toxicological effects Acute toxicity: No effects known.		
LD/LC50 values that are relevant for c Skin irritation or corrosion: Causes sk	kin irritation.	
Eve irritation or corrosion: Causes ser	erious eve irritation.	
Sensitization: No sensitizing effects kno Germ cell mutagenicity: No effects kno Carcinogenicity: No classification data	own. own. o on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.	
Reproductive toxicity: No effects know	non carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA of ACGIH. m. - repeated exposure: No effects known.	
Specific target organ system toxicity Specific target organ system toxicity Aspiration hazard: No effects known.	- single exposure: May cause respiratory irritation.	
Subacute to chronic toxicity: No effect	cts known. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	
5		
12 Ecological information Toxicity		
Aquatic toxicity: No further relevant info Persistence and degradability No furth	ther relevant information available.	
Bioaccumulative potential No further no Mobility in soil No further relevant inform	relevant information available.	
Additional ecological information: General notes:		
Do not allow undiluted product or large q Avoid transfer into the environment.	quantities to reach ground water, water course or sewage system.	
Results of PBT and vPvB assessment PBT: Not applicable.	t	
vPvB: Not applicable. Other adverse effects No further releva	ant information available.	
13 Disposal considerations		
Waste treatment methods	and the second	
Uncleaned packagings:	or national regulations to ensure proper disposal.	
Recommendation: Disposal must be m	ade according to official regulations.	
14 Transport information UN-Number		
DOT, ADN, IMDG, IATA	Not applicable	
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	x II of MARPOL73/78 and the IBC Code Not applicable.	(Contd. on page 4)

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oduct name: Ethyl 2-aminothiazol-4-ac	;etate
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Transport/Additional information:	
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	<u> </u>
5 Regulatory information	
Safety, health and environmental regulation	ns/legislation specific for the substance or mixture
GHS label elements The product is classified Hazard pictograms	and labeled in accordance with 29 CFR 1910 (OSHA HCS)
GHS07	
Signal word Warning	
Hazard statements H315 Causes skin irritation.	
H319 Causes serious eye irritation.	
H335 May cause respiratory irritation. <b>Precautionary statements</b> P261 Avoid breathing dust/fume/	laselmistlusnourslenrau
P280 Wear protective gloves/pro	/gas/mist/vapours/spray. tective clothing/eye protection/face protection. sly with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. son to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Kinse caulious P304+P340 IF INHALED: Remove pers	sly with water for several minutes. Remove contact lenses, il present and easy to do. Continue rinsing. on to fresh air and keep comfortable for breathing.
P405 Store locked up. P501 Dispose of contents/contail	ner in accordance with local/regional/national/international regulations.
<b>National regulations</b> This product is not listed in the U.S. Environme	ental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restric
to research and development only. This produce	ict must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This
This product is not listed on the Canadian Don SARA Section 313 (specific toxic chemical	noses or in formulátions for cómmercial purposes. nestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL). Listings) Substance is not listed.
California Proposition 65 Prop 65 - Chemicals known to cause cance	
Prop 65 - Developmental toxicity Substance Prop 65 - Developmental toxicity, female Su	is not listed.
Prop 65 - Developmental toxicity, male Sub	istance is not listed
Information about limitation of use: For use Other regulations, limitations and prohibition	ve regulations
Substance of Very High Concern (SVHC) ac	ccording to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on
market and use must be observed. Substance is not listed.	
Annex XIV of the REACH Regulations (requ	<i>liring Authorisation for use)</i> Substance is not listed.
Chemical safety assessment: A Chemical Sa	alety Assessment has not been carried out.
6 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	the health and safety of employees." This information is furnished without warranty, and any use of the product not i neet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing L	Department
Date of preparation / last revision 11/24/201 Abbreviations and acronyms:	
ADR: Accord europeen sur le transport des marchandises dai DOT: US Department of Transportation FINECS: European Inventory of Existing Commercial Chemic	ngereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) sal Substances
DOT: US Department of Transportation EINECS: European Inventory of Existing Commercial Chemic CAS: Chemical Abstracts Service (division of the American Ci HMIS: Hazardous Materials Identification System (USA)	hemical Society)
LC50: Lethal concentration, 50 percent	(Canada)
vPvB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hy	aienists (USA)
VPUB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hyc OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)	
EPA: Environmental Protection Agency (USA)	