



1 Identification Product identifier Product name: Oxolinic acid Stock number: J66637 CAS Number: 14698-29-4 EC number: 38-750-8 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 Acute Tox. 4 H302 Harmful if swallowed. 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 H302 Harmful if swallowed.

 Precautionary statements

 P264
 Wash thoroughly after handling.

 P270
 Do not eat, drink or smoke when using this product.

 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.

 P330 Rinse mouth. P50 Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification Not controlled Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) 2 Health (acute effects) = 2Flammability = 1 Flammability = 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: 14698-29-4 5,8-Dihydro-5-ethyl-8-oxo-1,3-dioxolo[4,5-g]quinoline-7carboxylic acid Identification number(s): EC number: 238-750-8 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. 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 treatment needed No further relevant information available.

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Flash point:

Flammability (solid, gaseous)

Not determined.

(Contd. of page 1) 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 Nitrogen oxides (NOx) Advice for fireficience 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 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: Dispose of contaminated material as waste according to section 13. 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. 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: Refrigerate Information about storage in one common storage facility: Store in the dark. Protect from heat. Store away from oxidizing agents. **Further information about storage conditions:** Keep container tightly sealed. Protect from exposure to light. Petricrent Refrigerate 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. 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. 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 P100 (USA) or P3 (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 protection of suitable 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. Material of gloves Nitrile rubber, NBR 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: Color: Powder White to off-white Not determined Odor: Odor threshold: Not determined pH-value: Not applicable. Change in condition Melting point/Melting range: Boiling point/Boiling range: 314-316 °C (597-601 °F) 473 °C (883 °F) Sublimation temperature / start: Not determined > 110 °C (> 230 °F)

Ovalinic acid Product r

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Product name: Oxolinic acid	
	(Contd. of page 2
Ignition temperature: Decomposition temperature: Auto igniting:	Not determined Not determined Not determined.
Danger of explosion: Explosion limits:	Not determined.
Lower: Upper:	Not determined Not determined
Vapor pressure:	Not applicable.
Density: Relative density	Not determined Not determined.
Vapor density Evaporation rate	Not applicable. Not applicable.
Solubility in / Miscibility with Water:	Not determined
Partition coefficient (n-octanol/water Viscosity:	'): Not determined.
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 recon Thermal decomposition / conditions Possibility of hazardous reactions R Conditions to avoid No further relevan Incompatible materials: Oxidizing agents Heat Light Hazardous decomposition products: Carbon monoxide and carbon dioxide Nitrogen oxides	nt information available.
1 Toxicological information Information on toxicological effects Acute toxicity: Harmful if swallowed. The Registry of Toxic Effects of Chemic	ical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for Oral LD50 525 mg/kg (rat)	classification:
Carcinogenicity The Registry of Toxic Effects of Chemi No classification data on carcinogenic Reproductive toxicity: No effects kno Specific target organ system toxicity Specific target organ system toxicity Aspiration hazard: No effects known.	se irritation nown. γ of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. ical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance. properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. wn. γ - repeated exposure : No effects known. γ - single exposure : No effects known.
Additional toxicological information.	egistry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. 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:	nformation available. rther relevant information available. relevant information available. ormation available. e quantities to reach ground water, water course or sewage system. nt
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: Do not allow undiluted product or large Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant 13 Disposal considerations Waste treatment methods	nformation available. ther relevant information available. relevant information available. prmation available. e quantities to reach ground water, water course or sewage system. nt vant information available. I or national regulations to ensure proper disposal.
 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: Do not allow undiluted product or large Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vforther adverse effects No further relevant 13 Disposal considerations Waste treatment methods Recommendation: Disposal must be r 14 Transport information 	nformation available. ther relevant information available. relevant information available. prmation available. e quantities to reach ground water, water course or sewage system. nt vant information available. I or national regulations to ensure proper disposal.
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 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: Do not allow undiluted product or large Avoid transfer into the environment. Results of PBT and vPvB assessmen PBT: Not applicable. vPvB: Not applicable. VPvB: Not applicable. VPvB: Not applicable. VPuB: Not applicable. VpuB: Recommendation Consult state, local Uncleaned packagings: Recommendation: Disposal must be r I4 Transport information UN-Number DOT, ADN, IMDG, IATA 	nformation available. ther relevant information available. relevant information available. ormation available. e quantities to reach ground water, water course or sewage system. nt vant information available. I or national regulations to ensure proper disposal. made according to official regulations.

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Product name: Oxolinic acid		
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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 MARPO		
Transport/Additional information:		
DOT		
Marine Pollutant (DOT):	No	
UN "Model Regulation":		
15 Regulatory information		
Safety, health and environmental regulations/legis GHS label elements The product is classified and lab Hazard pictograms	slation specific for the substance or mixture beled in accordance with 29 CFR 1910 (OSHA HCS)	
GHS07		
National regulations All components of this product are listed on the Canad This product is not listed in the U.S. Environmental Pr to research and development only. This product must product must not be used for commercial purposes or SARA Section 313 (specific toxic chemical listings California Proposition 65 Prop 65 - Chemicals known to cause cancer Subst Prop 65 - Developmental toxicity Substance is not ll Prop 65 - Developmental toxicity, female Substance i Information about limitation of use: For use only by Other regulations, limitations and prohibitive regu Although this chemical may sometimes be used as a f Substance of Very High Concern (SVHC) accordin The conditions of restrictions according to Article market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring A Chemical safety assessment: A Chemical Safety As	ance with local/regional/national/international regulations. adian Domestic Substances List (DSL). rotection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This is formulations for commercial purposes. Is) Substance is not listed. listed. tes not listed. is not listed. by technically qualified individuals. ulations food or drug or cosmetic, our products are not approved or suitable for such use or for human consumption. ng to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. e 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the	
information to ensure proper use and protect the healt conformance with this Material Safety Data Sheet, or l	plement to other information gathered by them, and should make independent judgement of suitability of this Ith and safety of employees. This information is furnished without warranty, and any use of the product not in r in combination with any other product or process, is the responsibility of the user.	
Department issuing SDS: Global Marketing Departm Date of preparation / last revision 11/24/2015 / - Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses DOT: US Department of Transportation EINECS: European Inventory of Existing Commercial Chemical Substan CAS: Chemical Abstracts Service (division of the American Chemical SU HMIS: Hazardous Materials Identification System (USA) WHIMIS: Workplace Hazardous Materials Information System (Canada) LCS0: Lethal dose, 50 percent UVPB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (U OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)	ment es par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) ances Society) a) USA) USA	