

Safety Data Sheet per OSHA HazCom 2012

per OSHA HazCom 2012	Printing date 11/24/2015 Reviewed on 11/01/2013
1 Identification Product identifier Product name: 1,2,3,5-Tetra-O-benzoyl-2-C-methyl-beta-D-ribofuranose Stock number: J66930 CAS Number: 15397-15-6 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. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 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 (86)	6) 928-0789.
2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) The substance is not classified according to the Globally Harmonized System (GHS). Hazards not otherwise classified No information known. Label elements GHS label elements Not applicable Hazard pictograms Not applicable	
Hazard pictograms Not applicable Signal word Not applicable Hazard statements Not applicable WHMIS classification Not controlled Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) HEALTH I HEALTH I	
Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.	
3 Composition/information on ingredients Chemical characterization: Substances CAS# Description: 15397-15-6 1,2,3,5-Tetra-O-benzoyl-2-C-methyl-beta-D-ribofuranose	
 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. 	
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 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 Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.	foam.
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: Pick up mechanically. 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.	(Contd. on page 2) USA

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See Section 13 for disposal information	1.	(Contd. of pag			
' Handling and storage					
Handling Precautions for safe handling Keep of	container tightly sealed.				
Information about protection against Conditions for safe storage, includin	t explosions and fires: No information known.				
Storage	ms and receptacles: Store in freezer (-20 $^{\circ}$).				
Information about storage in one con	mmon storage facility:				
Further information about storage co Specific end use(s) No further relevan	onditions: Keep container tightly sealed. t information available.				
Exposure controls/personal prot					
Additional information about design Properly operating chemical fume hood Control parameters	d designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.				
Components with limit values that re	equire monitoring at the workplace: vant 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.					
Remove all soiled and contaminated cl	othing immediately.				
Maintain an ergonomically appropriate	end of work. working environment.				
Breathing equipment: Use suitable re Protection of hands:	espirator when high concentrations are present.				
Impervious gloves Check protective gloves prior to each u	use for their proper condition.				
The selection of suitable gloves not onl Penetration time of glove material (in	ise for their proper condition. ly depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.				
Eve protection: Safety glasses					
Body protection: Protective work cloth	nng.				
Physical and chemical propertie					
Information on basic physical and cl General Information	nemical properties				
Appearance: Form:	Powder				
Color: Odor:	White to off-white Not determined				
Odor threshold:	Not determined.				
pH-value:	Not applicable.				
Change in condition Melting point/Melting range:	147-163 °C (297-325 °F)				
Boiling point/Boiling range:	Not determined				
Sublimation temperature / start: Flammability (solid, gaseous)	Not determined Not determined.				
(sona, guscous)	Not determined				
Ignition temperature:					
Decomposition temperature:	Not determined Not determined.				
Decomposition temperature: Auto igniting:	Not determined Not determined. Not determined.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits:	Not determined. Not determined.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower:	Not determined. Not determined. Not determined				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure:	Not determined. Not determined Not determined Not determined Not applicable.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density:	Not determined. Not determined Not determined Not determined Not applicable. Not determined				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density	Not determined. Not determined Not determined Not applicable. Not determined. Not determined. Not deplicable. Not deplicable.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density Evapor density Evaporation rate	Not determined. Not determined Not determined Not applicable. Not determined Not determined.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with	Not determined. Not determined Not determined Not applicable. Not determined Not determined. Not applicable. Not applicable. Not applicable.				
Auto igniting: Danger of explosion: Explosion limits: Lower: Vapor pressure: Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water	Not determined. Not determined Not determined Not determined Not determined Not determined. Not determined. Not applicable. Not applicable. Not applicable. Not applicable. Not determined. Not applicable. Not determined Not applicable. Not determined				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Evapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water) Viscosity:	Not determined. Not determined Not determined Not applicable. Not determined. Not applicable. Not applicable. Not applicable. Not determined Not determined Not determined.				
Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water, Viscosity: dynamic: kinematic:	Not determined. Not determined Not determined Not applicable. Not determined. Not determined. Not applicable. Not applicable. Not determined. Not applicable. Not determined. Not determined. Not determined. Not applicable. Not determined. Not determined. Not applicable. Not applicable. Not applicable. Not applicable.				
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Decomposition temperature: Auto igniting: Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water) Viscosity: dynamic: kinematic: Other information Stability and reactivity Paartivity No information known	Not determined. Not determined Not determined Not applicable. Not determined. Not determined. Not applicable. Not applicable. Not determined. Not applicable. Not determined. Not determined. Not determined. Not applicable. Not determined. Not determined. Not applicable. Not applicable. Not applicable. Not applicable.				

Possibility of hazardous reactions Reacts with strong oxidizing agents Conditions to avoid No further relevant information available. Incompatible materials: Oxidizing agents Heat Hazardous decomposition products: Carbon monoxide and carbon dioxide

USA (Contd. on page 3)

Product name: 1,2,3,5-Tetra-O-benzoyI-2-C-methyI-beta-D-ribofuranose

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11 Toxicological information					
Information on toxicological effects					
Acute toxicity: No effects known. LD/LC50 values that are relevant for classification: No data					
Skin irritation or corrosion: May cause irritation					
Eye irritation or corrosion: May cause irritation Sensitization: No sensitizing effects known.					
Germ cell mutagenicity: No effects known.	to the time the EDA IADO NTD OSUA or ACCIL				
Carcinogenicity: No classification data on carcinogenic properties of this mat Reproductive toxicity: No effects known.					
Specific target organ system toxicity - repeated exposure: No effects know Specific target organ system toxicity - single exposure: No effects known.	wn.				
Aspiration hazard: No effects known.	Aspiration hazard: No effects known.				
Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acut	e 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 undiluted product or large quantities to reach ground water, water	r course or sewage system.				
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 prope Uncleaned packagings:	r disposal.				
Recommendation: Disposal must be made according to official regulations.					
11 Transport information					
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 II of MARPOL73/78 and the IBC Con	de Not applicable.				
Transport/Additional information: DOT					
Marine Pollutant (DOT):	No				
UN "Model Regulation":	•				
15 Regulatory information					
Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements Not applicable					
Hazard pictograms Not applicable					
Signal word Not applicable Hazard statements Not applicable					
National regulations	N 1 1 0 wheel And Obamical Ochatana Inventory. Use of this weeduct is restricted				
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This					
product must not be used for commercial purposes or in formulations for commercial purposes. This product is not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).					
SARA Section 313 (specific toxic chemical listings) Substance is not listed.					
California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed.					
Prop 65 - Developmental toxicity Substance is not listed.					
Prop 65 - Developmental toxicity, female Substance is not listed.					
Prop 65 - Developmental toxicitý, male Substance is not listed. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations, and prohibitive regulations					
Other regulations, limitations and prohibitive regulations (Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.					
The conditions of restrictions according to Article 67 and Annex XVII of t	The conditions of restrictions according to Article 67 and 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 Authorisation for use) S Chemical safety assessment: A Chemical Safety Assessment has not been	ubstance is not listed.				
Chemical salety assessment. It onomiour oursey housesment has not seen	USA USA				

Product name: 1,2,3,5-Tetra-O-benzoyI-2-C-methyI-beta-D-ribofuranose

16 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 health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the use Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/24/2015 / -Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) DOT: US Department of Transportation CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LDS0: Lethal concentration, 50 percent VPUB: 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) IAPC: International Zafety and Health Administration (USA) NTP: National Toxicology Program (USA) IAPC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)

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