

1 Identification Product identifier Product name: 1-Hydroxycyclohexyl phenyl ketone Stock number: 44747 CAS Number: 947-19-3 EC number: 213-426-9 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 Eye Irrit. 2A H319 Causes serious eye 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 H319 Causes serious eye irritation. Precautionary statements Precautionary statements P280 Wear protective gloves/protective clothing/eye protection/face protection. P264 Wash thoroughly after handling. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. WHMIS classification D2B - Toxic material causing other toxic effects T Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. 3 Composition/information on ingredients Chemical characterization: Substances CAS# Description: 947-19-3 1-Hydroxycyclohexyl phenyl ketone Identification number(s): EC number: 213-426-9 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 immediately wash with water and soap and thise 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. (Contd. on page 2)

Product name: 1-Hydroxycyclohexyl	i phenyl ketone	(D) (J	
Indication of any immediate medical a	attention and special treatment needed No further relevant information available.	(Contd. of page 1)	
5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Carbon Special hazards arising from the subs If this product is involved in a fire, the foll Carbon monoxide and carbon dioxide Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.	dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. s tance or mixture lowing can be released:		
6 Accidental release measures Personal precautions, protective equip Wear protective equipment. Keep unprot Ensure adequate ventilation Environmental precautions: Do not allo Methods and material for containment Prevention of secondary hazards: No Reference to other sections See Section 7 for information on safe has See Section 8 for information on persona See Section 13 for disposal information.	tected persons away. ow material to be released to the environment without proper governmental permits. t and cleaning up: Pick up mechanically. special measures required. Indling		
7 Handling and storage Handling Precautions for safe handling Keep container tighty sealed. Store in cool, dry place in tighty 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 tighty 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. Additional information: No data 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 solied 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. Pervetorion: Sheves more the material (in minutes). Not determined Exposures for the appendix on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Pervetorion: Protective work clothing.			
9 Physical and chemical properties			
Information on basic physical and che General Information Appearance: Form: Color: Odor: Odor threshold: pH-value: Change in condition Metting point/Melting range:	Crystalline powder White Not determined Not determined. Not applicable. 46-49 °C (115-120 °F)		
Boiling point/Boiling range: Sublimation temperature / start: Flash point: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	>225 °C (>437 °F) ' Not determined > 150 °C (> 302 °F) Not determined. Not determined Not determined Not determined Not determined.	(Contd. on page 3)	

(Contd. on page 3)

Page 3/4 Printing date 11/23/2015 Reviewed on 04/05/2012

Product name: 1-Hydroxycyclohexyl phenyl ketone			
		(Contd. of page 2)	
Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water) Viscosity: dynamic: kinematic: Other information	Not determined. Not determined Not applicable. 1.17 g/cm ³ (9.764 lbs/gal) Not determined. Not applicable. Not applicable. Not determined : Not determined. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.		
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 Reacts with strong oxidizing agents Conditions to avoid No further relevant information available. Incompatible materials: Oxidizing agents Hazardous decomposition products: Carbon monoxide and carbon dioxide			
Reproductive foxicity: No effects know Specific target organ system toxicity Specific target organ system toxicity Aspiration hazard: No effects known. Subacute to chronic toxicity: No effect	e irritation rious eye irritation. own. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. vn. - repeated exposure: No effects known. - single exposure: No effects 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 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. 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. Uncleaned packagings: Recommendation: Disposal must be made 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 Packing group	Not applicable		
Packing group DOT, IMDG, IATA	Not applicable		
Environmental hazards: Special precautions for user	Not applicable. Not applicable.		
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.			
Transport/Additional information:			
DOT Marine Pollutant (DOT):	No		
UN "Model Regulation":	-		

USA (Contd. on page 4)

Product name: 1-Hydroxycyclohexyl phenyl ketone

Page 4/4 Printing date 11/23/2015 Reviewed on 04/05/2012

(Contd. of page 3) 15 Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture 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 H319 Causes serious eye irritation. Precautionary statements Precaduonary statements P280 Wear protective gloves/protective clothing/eye protection/face protection. P264 Wash thoroughly after handling. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. National regulations National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). 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 toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity 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 the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Substance is not liste Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out. 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. Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / -Date of preparation / last revision 11/23/2015 / -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 EVINECS: European Inventory of Existing Commercial Chemical Substances 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 UD50: 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) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)