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1 Identification of substance	
Product details	
Trade name	5-Chloroadamantan-2-one
Stock number:	B21028
Manufacturer/Supplier:	Alfa Aesar GmbH & Co.KG Benzstrasse 3 E-mail: gcat@matthey.com
	D-76185 Karlsruhe / Germany www.alfa-chemcat.com
Informing department:	Product safety department.
Emergency information:	Giftnotruf Universität Mainz / Poison Information Center Mainz www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240
2 Hazards identification	
Hazard designation:	void
Information pertaining to particular dangers for man and environment	Not applicable
GHS label elements	Void
3 Composition/information on ingredient	S
Chemical characterization: Designation: (CAS#)	5-Chloroadamantan-2-one (CAS# 20098-17-3): 100%
Designation. (CAS#)	5-Chiorodudinandir-2-one (CA3# 20030-17-5). 100 %
4 First aid measures	
After inhalation	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Seek immediate medical advice.
After skin contact	Seek immediate medical advice. Instantly 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 doctor. Seek medical treatment.
After swallowing	סכפה וווכעולמו ווכמנוווכוונ.
5 Fire fighting measures	
Suitable extinguishing agents Special hazards caused by the material, its	CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
Special hazards caused by the material, its	Can be released in case of fire:
products of combustion or flue gases:	Carbon monoxide and carbon dioxide
Protostivo o muiner onte	Hydrogen chloride (HCl)
Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.
	· · · · · · · · · · · · · · · · · · ·
6 Accidental release measures	
Person-related safety precautions:	Wear protective equipment. Keep unprotected persons away.
Measures for environmental protection:	Ensure adequate ventilation Do not allow material to be released to the environment without proper governmental permits.
Measures for environmental protection: Measures for cleaning/collecting:	Collect mechanically
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protection equipment.
	See Section 8 for information on personal protection equipment. See Section 13 for information on disposal.
7 Handling and storage	
Handling Information for safe handling:	Keep containers tightly sealed.
	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers.
Information about protection against	No special precautions necessary if used correctly.
explosions and fires:	Keep ignition sources away - Do not smoke.
Storage	
Requirements to be met by storerooms and containers:	No special requirements.
Information about storage in one common	
storage facility: Further information about storage	Store away from oxidizing agents.
conditions:	Keep container tightly sealed.
	Store in cool, dry conditions in well sealed containers.
8 Exposure controls and personal protec	tion
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.
Components with critical values that require monitoring at the workplace:	Not required.
Additional information:	No data
Personal protective equipment	
General protective and hygienic measures	The usual precautionary measures should be adhered to in handling the chemicals.
	Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments.
Desething a grain set	Instantly rémove any soiled and impregnated garments. Wash hands during breaks and at the end of the work.
Breathing equipment: Protection of hands:	Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition.
Material of gloves	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and
Eye protection:	varies from manufacturer to manufacturer. Safety glasses
Body protection:	Protective work clothing.
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	(Contd. of page 1)
9 Physical and chemical properties:	
General Information	
Form:	Crystalline
Colour: Smell:	White Not determined
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range: Sublimation temperature / start:	Not determined Not determined
Flash point:	Not applicable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product is not explosive.
Critical values for explosion:	Not determined
Lower: Upper:	Not determined Not determined
Steam pressure:	Not determined
Density	Not determined
10 Stability and reactivity	
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Oxidizing agents
Dangerous reactions: Dangerous products of decomposition:	No dangerous reactions known Carbon monoxide and carbon dioxide
	Hydrogen chloride (HCl)
11 Toxicological information	
Acute toxicity:	
Primary irritant effect:	
on the skin: on the eye:	May cause irritation May cause irritation
Sensitization:	No sensitizing effect known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or
	ACGIH.
12 Ecological information:	
Additional ecological information:	
General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
	Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits.
13 Disposal considerations	
Product:	
Recommendation	Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste.
	Must be specially treated under adherence to official regulations.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.
14 Transport information	
Land transport ADR/RID and GGVS/GGVE ( ADR/RID-GGVS/E Class:	cross-border/domestic) None
Maritime transport IMDG/GGVSea:	
IMDG/GGVSea Class: Marine pollutant:	None No
Air transport ICAO-TI and IATA-DGR:	
ICAO/IATA Class:	None
Transport/Additional information:	Not dangerous according to the above specifications.
15 Regulatory information	
Designation according to EC guidelines:	Observe the normal safety regulations when handling chemicals
besignation according to EC guidelines:	The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous
Notice of some 1. di	Materials (GefStoffV).
National regulations	For use only by technically qualified individuals
Information about limitation of use:	For use only by technically qualified individuals.
Water hazard class:	Water hazard class 1 (Self-assessment): slightly hazardous for water.
16 Other information:	a supplement to other information asthered by them, and also yild make index as dept index set of a 20-5 20-5 20-5
information to ensure proper use and protect th	a supplement to other information gathered by them, and should make independent judgement of suitability of this he 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 Sh	eet, or in combination with any other product or process, is the responsibility of the user.
Department issuing data specification shee Contact:	t: Health, Safety and Environmental Department. Zachariah Holt
Jonaol.	(Contd. on page 3)

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Abbreviations and acronyms:	(Contd. of page 2 Dangerous Goods by Road) RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO: The chnical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally Harmonized System of Classification and Labelling of Chemicals CAS: Chemical Abstracts Service (division of the American Chemical Society) GB -