

Revisio	n: 19.02.2015
SECTION 1: Identification of the substance/mixture and of the company/undertaking 1.1 Product identifier	
Trade name Aluminum chloride	
Stock number: L18489	
CAS Number: 7446-70-0	
EC number: 231-208-1	
Index number: 013-003-00-7	
1.2 Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development	
1.3 Details of the supplier of the safety data sheet	
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG	
A Johnson Matthey Company Zeppelinstr. 7b	
Zeppelinstr. 7b 76185 Karlsruhe / Germany Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300	
Fax: +49 (0) 721 84007 300 Email: tech@alfa.com	
www.alfa.com Informing department: Product safety Tel + +049 (0) 7275 988687-0	
1.4 Emergency telephone number: Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)	
Poison Information Center Mainz www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240	
SECTION 2: Hazards identification	
2.1 Classification of the substance or mixture	
Classification according to Regulation (EC) No 1272/2008	
GHS05 corrosion	
Skin Corr. 1B H314 Causes severe skin burns and eye damage.	
Classification according to Directive 67/548/EEC or Directive 1999/45/EC	
R34: Causes burns. Information concerning particular hazards for human and environment: Not applicable Other hazards that do not result in classification No information known.	
2.2 Label elements Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation. Hazard pictograms	
GHS05	
Signal word Danger	
Hazard statements H314 Causes severe skin burns and eye damage.	
Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapours/sprav.	
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsin	a.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P405 Store locked up.	5
P501 Dispose of contents/container in accordance with local/regional/national/international regulations. 2.3 Other hazards	
Results of PBT and vPvB assessment PBT: Not applicable.	
vPvB: Not applicable.	
SECTION 3: Composition/information on ingredients	
3.1 Substances CAS# Designation:	
7446-70-0 Aluminium chloride, anhydrous Identification number(s):	
EC number: 231-208-1 Index number: 013-003-00-7	
SECTION 4: First aid measures	
4.1 Description of first aid measures	
General information Instantly remove any clothing soiled by the product. 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	
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.	
After swallowing Seek medical treatment. 4.2 Most important symptoms and effects, both acute and delayed	
Causes severe skin burns. Causes serious eve damage.	
<b>4.3 Indication of any immediate medical attention and special treatment needed</b> No further relevant information available.	
SECTION 5: Firefighting measures	
5.1 Extinguishing media Suitable extinguishing agents CO2, sand, extinguishing powder. Do not use water.	
(Co	ontd. on page 2)

Trade name Aluminum chloride

## (Contd. of page 1) For safety reasons unsuitable extinguishing agents Water. 5.2 Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Metal oxide Hydrogen chloride (HCl) 5.3 Advice for firefighters Protective equipment: Wear self-contained breathing apparatus. Wear full protective suit. SECTION 6: Accidental release measures 6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Ensuré adequate ventilation 6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil. 6.3 Methods and material for containment and cleaning up: Use neutralizing agent. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. 6.4 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 information on disposal. SECTION 7: Handling and storage 7.1 Precautions for safe handling Handle under dry protective gas. Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace. Information about protection against explosions and fires: The product is not flammable 7.2 Conditions for safe storage, including any incompatibilities Storage Storage Requirements to be met by storerooms and containers: No special requirements. Information about storage in one common storage facility: Store away from oxidising agents. Store away from strong bases. Store in the dark. Store away from water. Further information about storage conditions: Store under dry inert gas. This product is moisture sensitive. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and keep away from water. Protect from the effects of light. Store in a locked cabinet or with access restricted to technical experts or their assistants. **7.3 Specific end use(s)** No further relevant information available. SECTION 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. 8.1 Control parameters Components with critical values that require monitoring at the workplace: 7446-70-0 Aluminium chloride, anhydrous (100,0%) REL (USA) Long-term value: 2 mg/m<sup>3</sup> as Al TLV (USA) Long-term value: 1\* mg/m<sup>3</sup> as Al;\*as respirable fraction Additional information: No data 8.2 Exposure controls 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 solied and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use breathing protection with high concentrations. 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: Check protective gloves prior to each use for their proper condition. 8.2 Exposure controls Protection of nands: Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Material of gloves Nitrile rubber, NBR Penetration time of glove material (in minutes) 480 Glove thickness 0.11 mm Elove thickness 0.11 mm Eye protection: Tightly sealed safety glasses. Full face protection Body protection: Protective work clothing. SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical properties General Information Appearance: Form: Powder or granules Colour: Yellow to gray (Contd. on page 3)

## Trade name Aluminum chloride

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Sector of the s	Trade name Aluminum chloride				
Odour threshold:         Not Betry ind.           Privatuse (10) and 20°C:         7.4           Object of controls         190 C (public)           Bolling Sprivation         190 C (public)           Bolling Sprivation         Not determined           Privation (10) privation         Not determined           Bolling Sprivation         Not determined           Bolling Sprivation         Not determined           Statistic         Not determined           Bolling Sprivation         Not determined           Statistic         Not determined           Bolling Sprivation         Not determined           Bolling Sprivation         Not determined           Upport         Not determined           Bolling Sprivation         Not determined           Upport         Not determined           Upport         Not determined           Statistics         Not determined           Upport         Not determined           Upport         Not determined           Not determined         Not determined           Statistics         Not determined           Statistics         Not determined           Statistics         Not determined           Statistics         Not determined			(Contd. of page 2)		
pt - value (10 g/) at 20 °C: 2.4 Change in condition Maining pointWeining reque: Not determined Second point interpreture second provide the provide of the provide second s					
Change in condition         More (public decimands)           More and the condition of the condithe condition of the condition of the condition of the					
Beller generitering and beller material in the determined in the d	Change in condition				
Babelington emperature 7 eart.         Not determined           Best problem interpretative:         Not determined           Best problem interpretative:         Not determined           Best problem interpretative:         Not determined           Child values for explosion:         Not determined           Child values for explosion:         Not determined           Best pressing:         Not applicable           Best pressing: <t< th=""><th>Melting point/Melting range: Boiling point/Boiling range:</th><th></th><th></th></t<>	Melting point/Melting range: Boiling point/Boiling range:				
genetion temperatures         Not determined           Bestimizer of explosion:         Not determined.           Dense of explosion:         Not explosion.           Dense of explosion:         Not explosion. <t< th=""><th>Sublimation temperature / start:</th><th>Not determined</th><th></th></t<>	Sublimation temperature / start:	Not determined			
Self-Inflammability: Not determined. Understand and the second se	Ignition temperature:	Not determined			
Denger of explosion:         Not determined:           Official values:         Not determined:           Opport:         Not determined:           Particle coefficient (not classed):         Not determined:           Opport:         Not determined:           Opport:         Not determined:           Opport:         Not determined:           Opport:         Not applicable:	Decomposition temperature: Self-inflammability:				
Upwer:         Not determined           Dynam:         Constrained           Dynam:         Not applicable.           Dynam:         Not applicable. <tdd< th=""><th>Danger of explosion:</th><th></th><th></th></tdd<>	Danger of explosion:				
Upper:         Net determined           Description of 20°C (2000)         2000)           Relative density         Not applicable           Paragravity         Not applicable           Paragravity         Not applicable           Paragravity         Not applicable           Partition coefficient (noclamol/water): Not dependence         Not applicable           Visition (1000)         Not applicable           Partition coefficient (noclamol/water): Not dependence         Not applicable           Visition (1000)         Not applicable           Visition (1000) <t< th=""><th></th><th>Not determined</th><th></th></t<>		Not determined			
Density at 30 °C         2.4.4 g/cm <sup>2</sup> Vapor density         Not splicable.           Vapor density         Not splicable.           Vapor density         Not splicable.           Water         Constant at the splicable.           Water         Not splicable.           Water         Not splicable.           Water         Not splicable.           Water         Not splicable.           Vapor density         Not splicable. <td< th=""><th>Upper:</th><th>Not determined</th><th></th></td<>	Upper:	Not determined			
Verson density         Mot applicable.           SetUbility if the information is active with water forming hydrochloric acid (HCI)         Person density           Water if the information is active with water forming hydrochloric acid (HCI)         Person density           Water if the information is active with water forming hydrochloric acid (HCI)         Person density           Section 10: Stability and reactivity         No lative with information is active with water forming hydrochloric acid (HCI)           10: A peacitivity No information known.         No lative recommended storage conditions.           10: Constraint is a stability Shale under recommended storage conditions.         No lative recommended storage conditions.           10: Constraint is a stability Shale under recommended storage conditions.         No lative recommended storage conditions.           10: Constraint is a stability Shale under recommended storage conditions.         No lative recommended storage conditions.           10: Constraint is a stability Shale under recommended storage conditions.         No lative recommended storage conditions.           10: Constraint is a stability Shale under storage conditions.         No lative recommended storage conditions.           11: Information on toxicological Information         11: Information is autorized acter toxicity.           11: Information contraction: Causes server skin burst.         Effect of the storage conditions.           11: Information coreacon: Causes server skin burst.         Effe	Density at 20 °C	2,44 g/cm <sup>3</sup>			
Solutions of Machine Vith Recent with water forming hydrochloric axid (HCI)         Particles of the information           Section 10: Stability and reactivity         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With on Information known.         Mol applicable           10: 10: Recent With On Information Recent With Water Informing hydrochloric acid (HCI)         Mol applicable           10: 10: Recent With Water Informing hydrochloric acid (HCI)         Mol applicable           10: 11: 11: Information on toxicological information         Mol applicable           11: 11: Information on toxicological information         Mol applicable           11: 11: Mol Toxicological information         Mol applicable           10: Mol Toxicological Information         Mol applicable           11: 11: Mol Toxicological Information         Mol applicable           11: 11: Mol Toxicological Information         Mol applicable           11: 20: Mol Applicable         Mol appli		Not applicable.			
Water:         Beacks with water forming hydrochloric acid (HCI)           Without Children (Inconsolvator): Not applicable.         Not applicable.           Streamic:         Not applicable.           Sector Monton Information         Not applicable.           Sector Monton Information Information Anom.         Sector Monton Information Information Anom.           Sector Monton Information Information Anom.         Sector Monton Information Information Anom.           Sector Monton Information Information Anom.         Sector Monton Information Anom.           Sector Monton Information Information Information Information Anomalia Information Informatio		Not applicable.			
Viscosity:         Not applicable           Water Stress         Not applicable           SECTION 10: Stability and reactivity         Not applicable           10:1 Reactivity No information A Not Number Stress         Not applicable           Thermal decomposition / conditions to be avoided: No Secomposition if used and stored according to specifications.         Not Secomposition / Conditions to be avoided: No Secomposition / Secomposin / Secomposition / Secom	Water:	Reacts with water forming hydrochloric acid (HCI)			
Microardies         Not abplicable.           9.2 Other information         Image: Comparison Compar	Viscosity:				
SECTION 10: Stability and reactivity 10.1 Reactivity No information known. 10.2 Chemical stability Stability under recommended storage conditions. Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications. Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications. Thermal decomposition / conditions to be avoided: No decomposition activity and the stored according to specifications. Thermal decomposition / conditions to be avoided: No decomposition activity and the stored according to specifications. Thermal decomposition roducts: Bases Watermoleum and the stored according to the stored according to specifications. SECTION 11: Toxicological information Section of corosion: Cause serves activity and the stored activity data for componentis in this product UDICS values that are relevant for classification: Corol Section 11: Loss (Toxicological information: Corol Section 11: Section 2: Section 3:					
10.1 Reactivity No information known.	9.2 Other information				
10.1 Reactivity No Information known.         10.2 Chemical stability Suble under recommended storage conditions.         Thermal decomposition / conditions to be avoided: No decomposition acid (HC)         10.5 Incompatible materials:         Bases         Bases <t< th=""><th>SECTION 10: Stability and reactiv</th><th>itv</th><th></th></t<>	SECTION 10: Stability and reactiv	itv			
10.2 Chemical stability Stable under recommended storage conditions	-	···			
10.5 Incompatible materials:       Description         Description       Total Provide Structure         11.6 Heardow decomposition products:       Hydrogen hulonde (HC)         SECTION 11: Toxicological information       Total Information on toxicological effects         Acute toxicity:       Total Effects         Constructure       Constructure         Dormal LOSO and to a strong causic effect on mouth and threat and to the danger of perforation of escophagus and stomach.         The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.         Dormal LOSO as gravity (and toxic)         Demail LOSO as gravity (and toxic)         Stin Initiation or corresion: Causes severe skin burns.         Sensitization:         Gerin cell mutagenicity: No dassitization data on carinogene properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH,         Carrinogenicity: No dassitization data on carinogene properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH,         Specific target organ system toxicity - repeated exposure: No effects known.         Specific target organ system toxicity - repeated exposure: No effects known.         Additional textocological information         12.1 Toxicity         Additional textocological information         12.3 Hookity in solid No information available.         Additional textocol	10.2 Chemical stability Stable under red	commended storage conditions.			
Bases Hydronic module (HC) To Composition products: Hydrogen chorade (HC) SECTION 11: Toxicological information 11:1 Information on toxicological information 12:1 Information or corresion: Causes service skin hums. Ever inflation or corresion: Causes service properties of this material is available from the EPA, IARC, NTP, OSHA or ACGH, Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Specific target organ system toxicity: - repeated exposure: No effects known. Substance: No sensitization data on carrenceptic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGH, Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Specific target organ system toxicity - repeated exposure: No effects known. Substance: No deficit shown. Substance: No deficit known. Substance to chronic toxicity: No effects known. Substance to chronic toxicity: No effects known. Substance and degradability No turther relevant information available. 12:2 Persistence and degradability No turther relevant information available. 12:2 Persistence and degradability No turther relevant information available. 13:1 Waste toxicity: No streades to the avironment without proper growme	10.3 Possibility of hazardous reactions	s Reacts with water forming hydrochloric acid (HCI)			
Light 105 Hazardous decomposition products: Hydrogen Hioride (HC) SECTION 11: Toxicological Information 11:1 Information on toxicological effects Acute toxicity: Swallowing will lead to a strong causic effect on mouth and throat and to the danger of perforation of esophagus and stomach. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product. Toxic Display (main) Jasso mayles (main) Berger Intalian or corrosion: Causes server skin burns. Eye (intalian or corrosion: Causes server skin burns. Eye (intalian or corrosion: Causes server skin burns. Strint Intrastion or corrosion: Causes server skin burns. Step (Tration or corrosion: Not Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Specific target organ system toxicity - repeated exposure: No effects known. Subscute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Strong of the substance is not fully known. Additional toxicological Information 2:1 Toxicity Math target organ system toxicity: repeated exposure: No effects known. Subscute to chronic toxicity: No effects known. Additional elevant information available. 1:2 Rockity: No full effect hormation available. 1:2 Rockity: No full effect hormation available. 1:2 Rockity: No full effect hormation available. 1:2 Rockity: No full effect hormation: Do nal	Bases				
Metal code       Hydrogen chloride (HCI)         SECTION 11: Toxicological information       11.1 Information on toxicological effects mouth and threat and to the danger of perforation of esophagus and stomach.         The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.       Image: Components in this product.         Orlal       LDDC50 vulues that are relevant for classes series seris series series seris series series series seris series series se					
Hydrogen chloride (HCD)           SECTION 11: Toxicological information           11.1 Information on toxicological effects           Acure toxicity:           The Remain of How Collegical information           UDLCSD values that are relevant for classification:           UDLCSD values that are relevant for classification:           UDLCSD values that are relevant for classification:           Darmal LDSD - 2 gm/kg (mouse)		ts:			
11.1 Information on toxicological effects         Acute toxicity:         Swallowing will lead to a strong caustic effect on mouth and threat and to the danger of perforation of esophagus and stomach.         The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.         LDLC50 values that are relevant for classification:         Orial       LDSD > 2g m/st (groups)					
Acute toxicity:       Section         Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.         The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.         LDLCGO values: that are relevant for classification:         Oral       LDS [32 gm/gt] (attabul)         Semilar LDS [32 gm/gt] (attabul)	SECTION 11: Toxicological inform	nation			
Swallowing will lead to a strong caustic effect on mouth and threat and to the danger of perforation of esophagus and stomach.         LDL/LC50 values that are relevant for classification:         Oral       LD50 [130 mg/kg (mouse)         Jatob mg/kg (rat)       Jatob mg/kg (rat)         Dermal LD50  >2 gm/kg (rabbi)       Jatob mg/kg (rat)         Skin irritation or corrosion: Causes series skin burns.       Eve irritation or corrosion: Causes series series and the mage.         Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.       Carcinogenicity: No dissification data on carcinogene properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH, Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.         Specific target organ system toxicity - repeated exposure: No effects known.       Subscure to chronic toxicity: No effects known.         Additional toxicological information:       To in the best of our knowledge the acute and chronic toxicity of this substance is not fully known.         SECTION 12: Ecological Information:       12.1 Toxicity.         Aquatic toxicity: No effects whom:       12.1 Toxicity         Aquatic toxicity: no effects of comment without proper governmental permits.       12.1 Toxicity         Age mark in a substance is not fully thazardous for water.       12.1 Toxicity         Do not allow material to be released to the environment without proper g		ts			
LDLC50 values that are relevant for classification:         Oral       LD50 1330 mg/kg (mouse)         Joermal       LD50 > 2 gm/kg (rab)         Dermal       LD50 > 2 gm/kg (rab)         Skin Irritation or corrosion: Causes serious eye damage.         Sensitization: No sensitizing effect known.         Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.         Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.         Specific target organ system toxicity - single exposure: No effects known.         Aspiration toxicolity: No effects known.         Subcute to chronic toxicity: No effects known.         SteCTION 12: Ecological information         12:1 Toxicity         Aquatic toxicity: No further relevant information available.         12:2 Bersistence and degradability No further relevant information available.         12:3 Eloaccumulative petitential No further relevant information available.         12:3 Bioaccumulative petiterial to be released to the environment without proper governmental permits.         Water hazerd class 1 (Assessment by lisis lightly hazardous for water.         Do not allow material to be released to the environment without proper governmental permits.         Water hazerd class 1 (Assessment by lisis lightly hazardous for water.         Do not allow undiluted pro	Acute toxicity: Swallowing will lead to a strong caustic e	ffect on mouth and throat and to the danger of perforation of esophagus and stomach.			
Oral       LD50       1130       mg/kg (mouse)         3450       mg/kg (rat)         Dermal       LD50       >2 gm/kg (rat)         Skin initiation or corrosion: Causes serious eye damage.         Sensitization in: No sensitizing effect known.         Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.         Specific target organ system toxicity - repeated exposure: No effects known.         Aspiration nazard: Ne effects. known.         Aspiration hazard: Ne effects. known.         Aspiration hazard: Ne effects. known.         Additional toxicological information         12.1       Toxicity         Additional toxicological information         12.1       Toxicity         Additional ecological information         12.3       Bioaccumulative potential No further relevant information available.         12.4       Mobility in soil No further relevant information available.         12.4       Mobility in soil No further relevant information available.         12.4       Mobility in soil No further relevant information available.         12.4       Mobility in soil No further relevant information available.         12.4       Mobility in soil No further relevant information available.         12.4       Mobility in soil No further relevant inf					
Demail LDS0   >2 gm/kg (rabbit) Skin intriation or corrosion: Causes server skin burns. Eye irritation or corrosion: Causes server skin burns. Eye irritation or corrosion: Causes server skin burns. Eye irritation or corrosion: Causes server skin burns. Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: No tassification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Specific target organ system toxicity - repeated exposure: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information 12.1 Toxicity Augustic toxicity: No further relevant information available. 12.2 Persistence and degradability No further relevant information available. Additional ecological information 12.1 Toxicity Mautic toxicity: No further relevant information available. Additional ecological information 12.2 Persistence and degradability No further relevant information available. Additional ecological information Ceneral notes: Do not allow material to be released to the environment without proper governmental permits. Water hazar datas 1 (Assessment by Ist): Slightly hazardous for water. Avoid transfer into the environment. 4.2 Stects of PBT and VPM assessment PBT: Not applicable. <b>SECTION 13: Disposal considerations</b> <b>SECTION 13: Disposal considerations</b> Recommendation Hand over to disposers of hazardous store. Must be specially treated under adherence to official regulations. Consult state, local or national regulations. Consult state, local or national regulations. <b>SECTION 14: Transport information</b> <b>SECTION 14: Transport information</b> <b>SECTI</b>					
Skin Irritation or corrosion: Causes severe skin burns.         Eye Irritation or corrosion: Causes servicus eye damage.         Sensitization: No sensizizing effect known.         Germ cell mutagenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.         Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.         Specific target organ system toxicity - repeated exposure: No effects known.         Apartion nazard: is toxicity - single exposure: No effects known.         Additional toxicological information         12.1 Toxicity         Additional dovicological information         12.1 Toxicity         Additional toxicological information available.         12.2 Persistence and degradability No further relevant information available.         12.3 Bioaccumulative potential No further relevant information available.         12.4 Dokicity         Additional toxicological information:         Bono tallow material to be released to the environment without proper governmental permits.         Water hazard class 1 (Assessment by Iist): slightly hazardous for water.         Do not allow unditived product or large quantities to reach ground water, water course or sewage system.         Avoid transfer into the environment.         12.5 Rescue of WT and WPVB assessment         Wist: of T3Disposal considerati	3450 mg/kg (rat)				
Sensitization: No sensitizing effect known. Gerri cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Specific Target organ system toxicity - repeated exposure: No effects known. Securitive toxicity: No effects known. Additional toxicological information: 12.1 Toxicity Aquatic toxicity: No further relevant information available. 12.2 Persistence and eggradability No further relevant information available. 12.4 Moality in self eggradability No further relevant information available. 12.4 Moality mail Noptencial No further relevant information available. 12.5 Additional toxicological information: General notes: Bo not allow material to be released to the environment without proper governmental permits. Water hazard class 1 (Assessment by list): slightly hazardous for water. Do not allow unditied product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. 12.5 Results of PBT and vPVB assessment PBT: Not applicable. 12.6 Other adverse effects No further relevant information available. 12.6 Other adverse effects No further relevant information available. 12.6 Other adverse effects No further relevant information available. 12.1 Not applicable. 13.1 Waste treatment methods Recommendation: Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. SECTION 14: Transport information WN-Number ADR, IMDG, IATA UN1726	Skin irritation or corrosion: Causes severe skin burns.				
Gern cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Aspiration hazard: No effects known. Mubacute to chronic toxicity: No effects known. Aspiration loxic Difficult information 25 ECTION 12: Ecological information 21.1 Toxicity Aquatic toxicity: No fifted approximation available. 22.2 Persistence and degradability No further relevant information available. 23.2 Persistence and degradability No further relevant information available. 23.2 Persistence and degradability No further relevant information available. 23.2 Persistence and degradability No further relevant information available. 24.4 Mobility in soil No further relevant information available. 24.4 Mobility in soil No further relevant information available. 24.4 Mobility in soil No further relevant information available. 24.5 Rescuentuative potential No three relevant information available. 25.6 Context of the environment without proper governmental permits. Where the acute lass 1 (Assessment by list) slightly hazardous for water. 25.6 Context of PBT and VPVB assessment 25.6 Other adverse effects No further relevant information available. 25.6 Context of PBT and VPVB assessment 25.6 Other adverse effects No further relevant information available. 25.6 Context of the substance official regulations. Consult state, local or national regulations for proper disposal. 25.6 Context of the one doel according to official regulations. Consult state, local or national regulations for proper disposal. 25.6 CTION 14: Transport information 25.6 CTION 14: Transport information 26.7 ADR, IMDG, LATA 20.7 Context AdaC ADR ADC	Eye irritation or corrosion: Causes seri Sensitization: No sensitizing effect know	ous eye damage. /n			
Specific target organ system toxicity - repeated exposure: No effects known. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. SECTION 12: Ecological information 12:1 Toxicity Aquetic toxicity: No further relevant information available. 12:2 Persistence and degradability No further relevant information available. 12:4 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. Water hazard class 1 (Assessment by list): silphy hazardous for water. Do not allow unditude product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. 12:5 Results of PBT and VPVB assessment PBT: Not applicable. YPVB: Not applicable. YPVB: Not applicable. YPVB: Not applicable. YPVB: Not applicable. YPVB: Not applicable. YPVB: Not applicable. Wust be specially treaded under adherence to official regulations. Consult state, local or national regulations for proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. SECTION 14: Transport information Wust Be specially treaded under adherence to official regulations. SECTION 14: Transport information Wust PAR hybe, JATA UN126	Germ cell mutagenicity: The Registry o	f Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.			
Specific target organ system toxicity - single exposure: 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 acute and chronic toxicity of this substance is not fully known. SECTION 12: Ecological information 12.1 Toxicity Aquatic toxicity: No further relevant information available. 12.2 Persistence and degradability No further relevant information available. 12.3 Bioaccumulative potential No further relevant information available. 12.4 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. Water hazerd: class 1 (Assessment by list): slightly hazardous for water. Do not allow material to be released to the environment without proper governmental permits. Water hazerd: class 1 (Assessment by list): slightly hazardous for water. Do not allow material to be released to the environment without proper governmental permits. Water hazerd: to the DT and vPVB assessment PTET: Not applicable. 12.5 Recuits of PBT and vPVB assessment PTET: Not applicable. 12.6 Other adverse effects No further relevant information available. SECTION 13: Disposal considerations 13.1 Waste treatment methods Recommendation Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. SECTION 14: Transport information UN-Number ADR, IMDG, IATA UN1726	<b>Carcinogenicity:</b> No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. <b>Reproductive toxicity:</b> The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.				
Subacute to chronic toxicity: No effects known.         Additional toxicological information:         12.1 Toxicity         Aquatic toxicity: No further relevant information available.         12.2 Persistence and degradability No further relevant information available.         12.3 Bioaccumulative potential No further relevant information available.         12.4 Mobility in soil formation:         General notes:         Do not allow material to be released to the environment without proper governmental permits.         Water hazard class 1 (Assessment by list): Singhty hazardous for water.         Do not allow undituted product or large quantities to reach ground water, water course or sewage system.         Avoid transfer into the environment.         YPB: Not applicable.         YPVB: Not applicable.         YPUB: Not applicable. <tr< th=""><th>Specific target organ system toxicity -</th><th></th><th></th></tr<>	Specific target organ system toxicity -				
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13.1 Waste treatment methods         Recommendation         Hand over to disposers of hazardous waste.         Must be specially treated under adherence to official regulations.         Consult state, local or national regulations for proper disposal.         Uncleaned packagings:         Recommendation:         Disposal must be made according to official regulations.         SECTION 14: Transport information         UN-Number         ADR, IMDG, IATA	SECTION 13: Disposal considerat	ions			
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Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. SECTION 14: Transport information UN-Number ADR, IMDG, IATA UN1726	Consult state, local or national regulations for proper disposal.				
SECTION 14: Transport information UN-Number ADR, IMDG, IATA UN1726	Uncleaned packagings:				
UN-Number ADR, IMDG, IATA UN1726					
ADR, IMDG, IATA UN1726		201			
(Contd. on page 4)		UN1726	(2		
			(Contd. on page 4)		

	Revision: 19.02.2015		
Trade name Aluminum chloride			
	(Contd. of page 3)		
14.2 UN proper shipping name ADR IMDG, IATA	1726 ALUMINIUM CHLORIDE, ANHYDROUS ALUMINIUM CHLORIDE, ANHYDROUS		
14.3 Transport hazard class(es)			
ADR			
Class Label IMDG, IATA	8 (C2) Corrosive substances. 8		
Class Label	8 Corrosive substances.		
Packing group ADR, IMDG, IATA	11		
14.5 Environmental hazards:	Not applicable.		
14.6 Special precautions for user Kemler Number: EMS Number: Segregation groups	Warning: Corrosive substances. 80 F-A,S-B Acids		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.			
Transport/Additional information:			
ADR Excepted quantities (EQ): Limited quantities (LQ) Transport category Tunnel restriction code	E2 1 kg 2 E		
UN "Model Regulation":	UN1726, ALUMINIUM CHLORIDE, ANHYDROUS, 8, II		
SECTION 15: Regulatory information 15.1 Safety, health and environmental regulations/legislation s Australian Inventory of Chemical Substances Substance is listed Standard for the Uniform Scheduling of Medicines and Poisons National regulations Information about limitation of use: Employment restrictions concerning young persons must be observed For use only by technically qualified individuals. Water hazard class: Water hazard class 1 (Assessment by list): slip Other regulations	s Substance is not listed.		
Other regulations, limitations and prohibitive regulations ELINCS (European List of Notified Chemical Substances) Subs Substance of Very High Concern (SVHC) according to the REA	tance is not listed.		

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No.** 7 **REACH - Pre-registered substances** Substance is listed. **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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. 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 Abbreviations and acronyms: RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organization ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Air Transport Association GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent CAS: Chemical Abstration Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency (USA) Skin corr. 1B: Skin corrosion/irritation, Hazard Category 1B