

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 08/03/2017

Reviewed on 08/03/2017

1 Identification

- **Product identifier**
- **Trade name:** Ammonia Cyanurate Powder Pack, 5 ml
- **Catalogue number:** ACR011, ACR012
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Thermo Fisher Scientific
Water and Lab Products
22 Alpha Road
Chelmsford, MA 01824, USA
phone: 1-978-232-6000
Made in Germany
- **Informing Department:** usbev.customerservice@thermofisherscientific.com
- **Emergency telephone number:**
24 hr Emergency
CHEMTREC®
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 1-703-527-3887
(collect calls accepted)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
lithium hydroxide monohydrate
sodium dichloroisocyanurate, dihydrate
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

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Trade name: **Ammonia Cyanurate Powder Pack, 5 ml**

P405 Store locked up.

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- **Other hazards** No further relevant information available.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 1310-66-3 EINECS: 215-183-4	lithium hydroxide monohydrate ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	10-20%
CAS: 51580-86-0 EINECS: 220-767-7 Index number: 613-030-01-7 RTECS: XZ1910000	sodium dichloroisocyanurate, dihydrate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319; STOT SE 3, H335	0.25-<2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air and to be sure call for a doctor.
- **After skin contact:**
Immediately rinse with plenty of water.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed**
burns
after inhalation:
coughing
breathing difficulty
after swallowing:
strong caustic effect
resorption
after absorption of large amounts:
vomiting
CNS disorders
ataxia (impaired locomotor coordination)
disorder of electrolyte balance
cramps
- **Danger:**
Danger of circulatory collapse.
Danger of gastric perforation.
- **Indication of any immediate medical attention and special treatment needed:**
If swallowed or in case of vomiting, danger of entering the lungs.
Later observation for pneumonia and pulmonary edema.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:

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Carbon monoxide (CO) and carbon dioxide (CO₂)

LiOx

Hydrogen chloride (HCl)

nitrous gases

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

- **Advice for emergency responders:** Protective equipment: see section 8

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

- **Advice on safe handling:**

Thorough dedusting.

Prevent formation of dust.

- **Hygiene measures:**

Do not inhale dust / smoke / mist.

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and at the end of work.

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

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidizing agents.

- **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

This product is hygroscopic.

- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

- **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

- **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:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
Alkaline resistant gloves
Check protective gloves prior to each use for their proper condition.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level ≤ 1 (10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed goggles
- **Body protection:** Alkaline resistant protective clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Powder
Color:	White
· Odor: Pungent	
· Odor threshold: Not determined.	
· pH-value at 20°C (68 °F): 12.3 Strongly alkaline	
· Melting point/freezing point: Not determined.	
· Initial boiling point and boiling range: Not determined.	
· Flash point: Not applicable.	
· Flammability (solid, gas): The product is not combustible.	
· Ignition temperature: Not determined.	
· Decomposition temperature: Not determined.	
· Auto-ignition temperature: Product is not self-igniting.	
· Danger of explosion: Product does not present an explosion hazard.	
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties: none	
· Vapor Pressure: Not applicable.	
· Density: Not determined.	
· Relative density: Not determined.	
· Vapor density: Not applicable.	
· Evaporation rate: Not applicable.	

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· Solubility(ies) Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Viscosity:	Not applicable.
· Solvent content: Organic solvents: Solids content:	0.0 % 100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Aqueous solution reacts alkaline.
 - Aqueous solution reacts with metals.
 - Reacts with light alloys in the presence of moisture to form hydrogen.
 - Corrodes aluminium and zinc.
 - Reacts with acids.
- **Conditions to avoid** Exposure to moisture.
- **Incompatible materials:**
 - organic substances
 - aluminium
 - zinc
- **Hazardous decomposition products:**
 - Chlorine compounds
 - In case of fire: see section 5.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

CAS: 1310-66-3 lithium hydroxide monohydrate		
Oral	LD50	368 mg/kg (rat) (Registrant, ECHA)
Inhalative	LC50	>6.15 mg/l/4h (rat) (Registrant, ECHA)
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate		
Oral	LD50	1,671 mg/kg (rat) (EPA OPP 81-1) (Registrant, ECHA)
Dermal	LD50	>5,000 mg/kg (rat) (EPA OPP 81-2) (Registrant, ECHA)

- **Primary irritant effect:**
 - **on the skin:** Causes severe skin burns.
 - **on the eye:** Causes serious eye damage.
Risk of blindness!

- **Information on components:**

CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate		
Irritation of eyes	OECD 405	(rabbit: burns)

- **Sensitization:** Based on available data, the classification criteria are not met.

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· Information on components:	
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
Sensitization	OECD 406 (guinea pig: negative) (Magnusson / Klingman)
· IARC (International Agency for Research on Cancer)	
None of the ingredients is listed.	
· NTP (National Toxicology Program)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	
· Other information: see section 8 / 15	
· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): The following statements refer to the mixture:	
· Germ cell mutagenicity Based on available data, the classification criteria are not met.	
· Carcinogenicity Based on available data, the classification criteria are not met.	
· Reproductive toxicity Based on available data, the classification criteria are not met.	
· STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.	
· STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.	
· Aspiration hazard Based on available data, the classification criteria are not met.	
· Information on components:	
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Escherichia coli)

· **Additional toxicological information:**

The following applies to lithium compounds in general:

after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

· **Toxicity**· **Aquatic toxicity:**

CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
EC50	0.28 mg/l/48h (Daphnia magna) (ECOTOX)
EC50	>5,000 mg/l/96h (Algal toxicity) (OECD 201)
NOEC	2,600 mg/l (Daphnia magna) (OECD 2011, 21d) (Registrant, ECHA) 756 mg/l (fish) (28d) (Registrant, ECHA) 1,000 mg/l (rainbow trout) (OECD 2015, 28d) (Registrant, ECHA)
LC50	0.25 mg/l/96h (rainbow trout) (ECOTOX)

· **Other information:**

the following applies for lithium compounds in general:

fish toxic from 100 mg/l, Daphnia toxic from 16 mg/l, plants toxic from 0,2 mg/l

· **Persistence and degradability**

CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
OECD 306	4 (.) (Biodegradation Test – Seawater)

· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Other adverse effects**

Harmful effect due to pH shift.

Avoid transfer into the environment.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number · DOT, IMDG, IATA	UN2680
· UN proper shipping name · DOT · IMDG · IATA	Lithium hydroxide mixture LITHIUM HYDROXIDE Lithium hydroxide
· Transport hazard class(es) · DOT	
	
· Class · Label	8 Corrosive substances 8
· IMDG, IATA	
	
· Class · Label	8 Corrosive substances 8
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category · Segregation Code	Warning: Corrosive substances 80 F-A,S-B Alkalis A SG35 Stow "separated from" acids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information: · DOT · Quantity limitations · Limited quantity (LQ): · Excepted quantities (EQ)	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg 1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

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<ul style="list-style-type: none"> • IMDG • Limited quantities (LQ) • Excepted quantities (EQ) 	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
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*15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

• **Section 355 (Extremely hazardous substances):**

None of the ingredients is listed.

• **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

• **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

• **Proposition 65**

• **Chemicals known to cause cancer:**

None of the ingredients is listed.

• **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

• **New Jersey Right-to-Know List:**

None of the ingredients is listed.

• **New Jersey Special Hazardous Substance List:**

None of the ingredients is listed.

• **Pennsylvania Right-to-Know List:**

CAS: 51580-86-0 | sodium dichloroisocyanurate, dihydrate

• **Pennsylvania Special Hazardous Substance List:**

None of the ingredients is listed.

• **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Relevant phrases**

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

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• **Date of preparation / last revision** 08/03/2017 / -

• **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure
 EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ACGIH® - American Conference of Governmental Industrial Hygienists
 •A1 - Confirmed human carcinogen
 •A2 - Suspected human carcinogen
 •A3 - Confirmed animal carcinogen with unknown relevance to humans
 •A4 - Not classifiable as a human carcinogen
 •A5 - Not suspected as a human carcinogen
 IARC - International Agency for Research on Cancer
 •Group 1 - Carcinogenic to humans
 •Group 2A - Probably carcinogenic to humans
 •Group 2B - Possibly carcinogenic to humans
 •Group 3 - Not classifiable as to carcinogenicity to humans
 •Group 4 - Probably not carcinogenic to humans
 NTP - National Toxicology Program, U.S. Department of Health and Human Services
 •Group K - Known to be Human Carcinogens
 •Group R - Reasonably Anticipated to be Human Carcinogens
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

• **Sources**

Data arise from safety data sheets, reference works and literature.
 ECHA: European Chemicals Agency <http://echa.europa.eu>
 RTECS (Registry of Toxic Effects of Chemical Substances)

• * **Data compared to the previous version altered.**

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Printing date 08/03/2017

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1 Identification

- **Product identifier**
- **Trade name:** Ammonia Salicylate Powder Pack, 5 ml
- **Catalogue number:** ACR011-1, ACR012-1, ACR011, ACR012
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Thermo Fisher Scientific
Water and Lab Products
22 Alpha Road
Chelmsford, MA 01824, USA
phone: 1-978-232-6000
Made in Germany
- **Informing Department:** usbev.customerservice@thermofisherscientific.com
- **Emergency telephone number:**
24 hr Emergency
CHEMTREC®
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 1-703-527-3887
(collect calls accepted)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
sodium salicylate
sodium nitroprusside dihydrate
- **Hazard statements**
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
- **Precautionary statements**
P280 Wear protective gloves / eye protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
- **Other hazards** No further relevant information available.

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Trade name: **Ammonia Salicylate Powder Pack, 5 ml**

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 54-21-7 EINECS: 200-198-0 RTECS: VO5075000	sodium salicylate	⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319	40-50%
CAS: 13755-38-9 EINECS: 238-373-9 RTECS: LJ 8925000	sodium nitroprusside dihydrate	⚠ Acute Tox. 3, H301	0.1-≤2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with plenty of water.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed**
irritations
resorption
after inhalation:
mucous membrane irritation
coughing
breathing difficulty
after swallowing:
sickness
vomiting
diarrhoea
after swallowing of large amounts:
tinnitus (ringing in the ears)
headache
dizziness
coma
fever
disorientation
drop in blood pressure
disorder of electrolyte balance
cramps
- **Danger:** Danger of circulatory collapse.
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Hydrogen chloride (HCl)
Sulfur oxides (SO_x)
Nitrogen oxides (NO_x)
nitrous gases
cyanide compounds, sodium monoxide

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- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
 - **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.
-

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
 - **Advice for emergency responders:** Protective equipment: see section 8
 - **Environmental precautions:** Do not allow product to reach sewage system or any water course.
 - **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
 - **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
-

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
 - **Advice on safe handling:**
Use only in well ventilated areas.
Prevent formation of dust.
 - **Hygiene measures:**
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.
 - **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Protect from exposure to the light.
Store in dry conditions.
Protect from humidity and water.
This product is hygroscopic.
 - **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
 - **Specific end use(s)** No further relevant information available.
-

8 Exposure controls/personal protection

- **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:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

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See item 7.

- **Personal protective equipment:**

- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.

- **Recommended filter device for short term use:** Filter P2

- **Protection of hands:**

Protective gloves

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

Value for the permeation: Level ≤ 1 (10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Safety glasses

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment:** Avoid release to the environment.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Appearance:**

Form / Physical state:	Powder
Color:	Whitish

- **Odor:** Odorless

- **Odor threshold:** Not applicable.

- **pH-value (50 g/l) at 20°C (68 °F):** 8.1

- **Melting point/freezing point:** Not determined.

- **Initial boiling point and boiling range:** Not determined.

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** The product is not combustible.

- **Ignition temperature:** Not determined.

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Flammability or explosive limits:**

Lower:	Not applicable.
Upper:	Not applicable.

- **Oxidizing properties:** none

- **Vapor Pressure:** Not applicable.

- **Density at 20°C (68 °F):** 1.25 g/cm³ (10.431 lbs/gal)

- **Relative density:** Not determined.

- **Vapor density:** Not applicable.

- **Evaporation rate:** Not applicable.

- **Solubility(ies)**

Water:	Soluble.
---------------	----------

- **Partition coefficient (n-octanol/water):** Not applicable.

- **Viscosity:** Not applicable.

- **Solvent content:**

Organic solvents:	0.0 %
Solids content:	100.0 %

(Contd. on page 5)

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Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/03/2017

Reviewed on 08/03/2017

Trade name: **Ammonia Salicylate Powder Pack, 5 ml**

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Other information	No further relevant information available.
--------------------------	--

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
Contact with acids releases toxic gases.
Reacts with acids, alkalis and oxidizing agents.
Reacts with oxidizing agents.
--> Forms heat.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Hydrogen cyanide (prussic acid HCN)
see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

LD/LC50 values that are relevant for classification:		
CAS: 54-21-7 sodium salicylate		
Oral	LD50	930 mg/kg (rat) (RTECS)
	LDLo	700 mg/kg (hmn) (RTECS)
CAS: 13755-38-9 sodium nitroprusside dihydrate		
Oral	LD50	99 mg/kg (rat) (RTECS, anhydrous substance)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Causes serious eye irritation.
- **Information on components:** CAS 54-21-7: chronic: dermatitis
- **Sensitization:** Based on available data, the classification criteria are not met.

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

- **Other information:** see section 8 / 15

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Additional toxicological information:**

The following complies to cyanogen compounds / nitriles in general:

Utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration.

The following applies to soluble iron compounds: nausea and vomiting after swallowing. The absorption of large quantities is followed by cardiovascular disorders. Toxic effect on liver and kidneys.

CAS 54-21-7: skin resorption (effects similar to those of ingestion)

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Trade name: **Ammonia Salicylate Powder Pack, 5 ml**

CAS 54-21-7: chronic: central nervous system effects

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12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 54-21-7 sodium salicylate

EC10	304 mg/l (Daphnia magna) (24) (ECOTOX)
------	---

LC50	1,370 mg/l/96h (fathhead minnow) (ECOTOX)
------	--

CAS: 13755-38-9 sodium nitroprusside dihydrate

EC50	1 mg/l/24h (Daphnia magna)
------	----------------------------

LC50	0.05 mg/l (fish)
------	------------------

- **Other information:**

Toxic for fish:

the following applies to dissolved iron compounds in general:

toxic as from 0.9 mg/l at pH 6.5 - 7.5

lethal as from 1.0 mg/l at pH 5.5 - 6.7

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 54-21-7 sodium salicylate

log Pow	≤1.43 (.) (calculated)
---------	------------------------

- **Mobility in soil** No further relevant information available.

- **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

· DOT, IMDG, IATA	none
--------------------------	------

- **UN proper shipping name**

· DOT, IMDG, IATA	none
--------------------------	------

- **Transport hazard class(es)**

- **DOT, IMDG, IATA**

· Class	none
----------------	------

- **Packing group**

· DOT, IMDG, IATA	none
--------------------------	------

- **Environmental hazards:**

Not applicable.

- **Special precautions for user**

Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

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Trade name: **Ammonia Salicylate Powder Pack, 5 ml**

(Contd. of page 6)

· Transport/Additional information:	Not dangerous according to the above specifications.
--	--

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (Extremely hazardous substances):
--

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
--

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- **Proposition 65**

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
--

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
--

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· New Jersey Right-to-Know List:

None of the ingredients is listed.

· New Jersey Special Hazardous Substance List:

None of the ingredients is listed.

· Pennsylvania Right-to-Know List:

None of the ingredients is listed.

· Pennsylvania Special Hazardous Substance List:

None of the ingredients is listed.

· EPA (Environmental Protection Agency)
--

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- **Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning young persons must be observed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

- **Date of preparation / last revision** 08/03/2017 / -

- **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

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Reviewed on 08/03/2017

Trade name: Ammonia Salicylate Powder Pack, 5 ml

(Contd. of page 7)

EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ACGIH® - American Conference of Governmental Industrial Hygienists
 •A1 - Confirmed human carcinogen
 •A2 - Suspected human carcinogen
 •A3 - Confirmed animal carcinogen with unknown relevance to humans
 •A4 - Not classifiable as a human carcinogen
 •A5 - Not suspected as a human carcinogen
 IARC - International Agency for Research on Cancer
 •Group 1 - Carcinogenic to humans
 •Group 2A - Probably carcinogenic to humans
 •Group 2B - Possibly carcinogenic to humans
 •Group 3 - Not classifiable as to carcinogenicity to humans
 •Group 4 - Probably not carcinogenic to humans
 NTP - National Toxicology Program, U.S. Department of Health and Human Services
 •Group K - Known to be Human Carcinogens
 •Group R - Reasonably Anticipated to be Human Carcinogens
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

• **Sources**

Data arise from safety data sheets, reference works and literature.
 RTECS (Registry of Toxic Effects of Chemical Substances)

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Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

Reviewed on 08/07/2017

1 Identification

- **Product identifier**
- **Trade name:** Ammonia Diluent Reagent LR
- **Catalogue number:** ACR012-2, ACR012
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Thermo Fisher Scientific
Water and Lab Products
22 Alpha Road
Chelmsford, MA 01824, USA
phone: 1-978-232-6000
Made in Germany
- **Informing Department:** usbev.customerservice@thermofisherscientific.com
- **Emergency telephone number:**
24 hr Emergency
CHEMTREC®
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 1-703-527-3887
(collect calls accepted)

2 Hazard(s) identification

- **Classification of the substance or mixture** The product is not classified as hazardous.
- **Label elements**
- **GHS label elements** none
- **Hazard pictograms** none
- **Signal word** none
- **Hazard statements** none
- **Other hazards** No further relevant information available.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Composition and information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 54-21-7 EINECS: 200-198-0 RTECS: VO5075000	sodium salicylate	⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319	2.5-5%
---	-------------------	---	--------

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.

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acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

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Trade name: **Ammonia Diluent Reagent LR**

(Contd. of page 1)

If symptoms persist consult doctor.

- **Most important symptoms and effects, both acute and delayed**

irritations

resorption

after swallowing:

sickness

vomiting

after swallowing of large amounts:

tinnitus (ringing in the ears)

dizziness

headache

coma

disorder of electrolyte balance

- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:** Wear protective equipment. Keep unprotected persons away.

- **Advice for emergency responders:** Protective equipment: see section 8

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Dilute with plenty of water.

- **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

- **Advice on safe handling:** No special precautions are necessary if used correctly.

- **Hygiene measures:**

The usual precautionary measures for handling chemicals should be followed.

Wash hands before breaks and at the end of work.

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

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:** Not required.

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acc. to OSHA HCS (HazCom 2012)

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Trade name: **Ammonia Diluent Reagent LR**

(Contd. of page 2)

- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **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:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter B
- **Protection of hands:**
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - Nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
 - Value for the permeation: Level ≤ 1 (10 min)
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
 - Safety glasses
 - use against the effects of fumes / dust
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:** No further relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Fluid
Color:	Colorless
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value at 20°C (68 °F):	10.4
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	~100°C (~212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties:	none

(Contd. on page 4)

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Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

Reviewed on 08/07/2017

Trade name: **Ammonia Diluent Reagent LR**

(Contd. of page 3)

· Vapor Pressure:	Not determined.
· Density at 20°C (68 °F):	~ 1 g/cm ³ (~ 8.345 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies) Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	Not determined.
· Solvent content: Organic solvents:	0.0 %
Water:	> 95 %
Solids content:	< 5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions** No further relevant information available.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 54-21-7 sodium salicylate

Oral	LD50	930 mg/kg (rat) (RTECS)
	LDLo	700 mg/kg (hmn) (RTECS)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 54-21-7: chronic: dermatitis
- **Sensitization:** Based on available data, the classification criteria are not met.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- **Other information:** see section 8 / 15

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

Reviewed on 08/07/2017

Trade name: **Ammonia Diluent Reagent LR**

(Contd. of page 4)

- **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

CAS 54-21-7: skin resorption (effects similar to those of ingestion)

CAS 54-21-7: chronic: central nervous system effects

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 54-21-7 sodium salicylate

EC10 304 mg/l (Daphnia magna) (24)
(ECOTOX)

LC50 1,370 mg/l/96h (fathhead minnow)
(ECOTOX)

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

CAS: 54-21-7 sodium salicylate

log Pow ≤ 1.43 (.) (calculated)

- **Mobility in soil** No further relevant information available.

- **Other adverse effects**

Harmful effect due to pH shift.

Neutralization possible in waste water treatment plants.

Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Small amounts may be diluted with plenty of water (3 to 5 times the volume) and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

· **DOT, IMDG, IATA** none

- **UN proper shipping name**

· **DOT, IMDG, IATA** none

- **Transport hazard class(es)**

· **DOT, IMDG, IATA**

· **Class** none

- **Packing group**

· **DOT, IMDG, IATA** none

- **Environmental hazards:**

Not applicable.

- **Special precautions for user**

Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

(Contd. on page 6)

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Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

Reviewed on 08/07/2017

Trade name: Ammonia Diluent Reagent LR

(Contd. of page 5)

· Transport/Additional information:	Not dangerous according to the above specifications.
--	--

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (Extremely hazardous substances):
--

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
--

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
--

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
--

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· New Jersey Right-to-Know List:

CAS: 1310-73-2 sodium hydroxide

· New Jersey Special Hazardous Substance List:

CAS: 1310-73-2 sodium hydroxide

	CO, R1
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· Pennsylvania Right-to-Know List:

CAS: 1310-73-2 sodium hydroxide

· Pennsylvania Special Hazardous Substance List:

CAS: 1310-73-2 sodium hydroxide

	E
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· EPA (Environmental Protection Agency)
--

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- Information about limitation of use: Not required.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

- Date of preparation / last revision 08/07/2017 / -

- Abbreviations and acronyms:

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

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acc. to OSHA HCS (HazCom 2012)

Printing date 08/07/2017

Reviewed on 08/07/2017

Trade name: Ammonia Diluent Reagent LR

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- A5 - Not suspected as a human carcinogen
- IARC - International Agency for Research on Cancer
- Group 1 - Carcinogenic to humans
- Group 2A - Probably carcinogenic to humans
- Group 2B - Possibly carcinogenic to humans
- Group 3 - Not classifiable as to carcinogenicity to humans
- Group 4 - Probably not carcinogenic to humans
- NTP - National Toxicology Program, U.S. Department of Health and Human Services
- Group K - Known to be Human Carcinogens
- Group R - Reasonably Anticipated to be Human Carcinogens
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

• Sources

Data arise from safety data sheets, reference works and literature.

ECOTOX Database

RTECS (Registry of Toxic Effects of Chemical Substances)

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