

MOEL's Public Notice No. 2016-19 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

WAI4 - KGHS - KOREAN

Issue Date 05-Sep-2019

Revision Date 05-Sep-2019

Revision Number 1

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### Product Identifier

**Product Name** Ammonia Reagent 1  
**Product No** 2210RE PART 1 OF 2  
**Pure substance/mixture** Mixture

### Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Use as laboratory reagent  
**Uses advised against** No Information available

### **Supplier**

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### **E-mail address**

Chem.KR@thermofisher.com info.water@thermo.com

### Emergency Telephone Number

**Emergency telephone:** Medical: +(82) 070-7686-0086 or + 1-703-741-5970  
 CHEMTREC: 1-800-424-9300 or + 1-703-527-3887  
 Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

Made in USA

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

#### Physical hazards

Based on available data, the classification criteria are not met

#### Health hazards

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Serious Eye Damage/Eye Irritation

Category 2

## Environmental hazards

Based on available data, the classification criteria are not met

## Label Elements



## Signal Word

Warning

## Hazard Statements

H319 - Causes serious eye irritation

## Precautionary Statements

### Prevention

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

### Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

### Storage

P403 - Store in a well-ventilated place

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

## NFPA

Health  
2

Flammability  
0

Instability  
0

Physical hazards  
N/A

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

Component	Common Name	CAS-No	Index No.	Weight %
Water	No information available	7732-18-5	KE-35400	80 - 90
Sodium Salicylate	No information available	54-21-7	KE-20384	>=10 - 20
Sodium Citrate Dihydrate	No information available	6132-04-3	Not listed	2.5 - <5
Sodium Nitroprusside Dihydrate	No information available	13755-38-9	Not listed	0.1 - 0.5

## SECTION 4: FIRST AID MEASURES

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## First aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Self-Protection of the First Aider</b>	Use personal protective equipment. See section 8 for more information. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

## Most important symptoms and effects, both acute and delayed

<b>Most important symptoms and effects</b>	None reasonably foreseeable
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## Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically
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## **SECTION 5: FIREFIGHTING MEASURES**

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable Extinguishing Media

No information available

### Specific Hazards Arising from the Chemical

No information available.

### Explosion Data

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### Personal Precautions, Protective Equipment and Emergency Procedures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional ecological information.

### Methods and Material for Containment and Cleaning Up

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
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**Methods for Cleaning Up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

**Handling** Wear personal protective equipment  
Ensure adequate ventilation  
Do not get in eyes, on skin, or on clothing  
Avoid ingestion and inhalation

### Conditions for Safe Storage, Including any Incompatibilities

**Storage** Keep container tightly closed in a dry and well-ventilated place  
Store at room temperature in the original container  
Keep away from direct sunlight

**Incompatible Products** No information available

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	CAS-No	Korea	ACGIH TLV	OSHA PEL
Water	7732-18-5	Not listed	Not listed	Not listed
Sodium Salicylate	54-21-7	Not listed	Not listed	Not listed
Sodium Citrate Dihydrate	6132-04-3	Not listed	Not listed	Not listed
Sodium Nitroprusside Dihydrate	13755-38-9	Not listed	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 1 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup>

Component	CAS-No	European Union	The United Kingdom	Germany
Water	7732-18-5	Not listed	Not listed	Not listed
Sodium Salicylate	54-21-7	Not listed	Not listed	Not listed
Sodium Citrate Dihydrate	6132-04-3	Not listed	Not listed	Not listed
Sodium Nitroprusside Dihydrate	13755-38-9	Not listed	STEL: 15 mg/m <sup>3</sup> 15 min STEL: 2 mg/m <sup>3</sup> 15 min TWA: 5 mg/m <sup>3</sup> 8 hr TWA: 1 mg/m <sup>3</sup> 8 hr Skin	TWA: 2 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 2 mg/m <sup>3</sup> Haut

### Biological Exposure Indices

Component	CAS-No	Biological Exposure Indices
Water	7732-18-5	Not listed
Sodium Salicylate	54-21-7	Not listed
Sodium Citrate Dihydrate	6132-04-3	Not listed
Sodium Nitroprusside Dihydrate	13755-38-9	Not listed

### Appropriate engineering controls

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location

### Individual protection measures, such as personal protective equipment

**Personal protective equipment** Use only those certified by the Korea Occupational Safety and Health Administration.

**Eye/face Protection** Wear chemical splash goggles and face shield. If splashes are likely to occur, wear:  
Face-shield.

**Skin and Body Protection** Wear protective gloves/clothing.

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**Respiratory Protection** None under normal use conditions. In case of inadequate ventilation wear respiratory protection.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Light brown
<b>Odor</b>	None
<b>Odor Threshold</b>	No information available
<b>pH</b>	7.86
<b>PH Range</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point/freezing point</b>	No information available	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point (High in °C)</b>	N/A	
<b>Evaporation Rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor Density</b>	No information available	
<b>Specific Gravity</b>	No information available	
<b>Water Solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition Temperature</b>	-	
<b>Decomposition Temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

### Other Information

<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content(%)</b>	No information available
<b>Density</b>	No Information available
<b>Bulk Density</b>	No information available

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

No Information available

### Chemical Stability

Stable under normal conditions

### Possibility of Hazardous Reactions

None under normal processing

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## Conditions to Avoid

Extremes of temperature and direct sunlight.

## Incompatible Materials

No information available

## Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Product Information

#### Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes. Irritating to eyes.
Skin	Avoid contact with skin. May cause irritation.

#### Information on Toxicological Effects

**Symptoms** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available

**Mutagenic Effects** No information available

**Carcinogenicity** No information available.

**Reproductive Effects** No information available

**STOT - single exposure** No information available

**STOT - repeated exposure** No information available  
**Target Organs** None known.

**Aspiration hazard** No information available

#### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 6164 mg/kg

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity

4.16% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Freshwater Algae	Freshwater Fish	Water Flea
Sodium Salicylate 54-21-7	-	LC50: 1270 - 1470 mg/L, 96h flow-through (Pimephales promelas)	-

### Persistence and Degradability

No information available

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## Bioaccumulation/ Accumulation

No information available

## Mobility

.

Component	log Pow
Sodium Salicylate 54-21-7	2.26

## Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### **Waste Disposal Methods**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

## SECTION 14: TRANSPORT INFORMATION

### Road and Rail Transport

Not Regulated

### IATA

Not regulated

### IMDG/IMO

#### **Marine Pollutant**

Not regulated

Not Applicable

#### **Special Precautions for User**

No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

### **International Inventories**

Component	CAS-No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	AICS
Water	7732-18-5	KE-35400	X	231-791-2	X	X	-	X	-	X
Sodium Salicylate	54-21-7	KE-20384	X	200-198-0	X	X	-	X	X	X
Sodium Citrate Dihydrate	6132-04-3	-	-	-	X	-	-	X	-	X
Sodium Nitroprusside Dihydrate	13755-38-9	-	-	-	X	-	-	X	-	X

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable	Annex I - Y33

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Water	7732-18-5	Listed	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable

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Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

## Korean National Regulations

Component	CAS-No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
Water	7732-18-5	Annex 1 - KE-35400 Exempt (Index No. 25)	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Annex 1 - KE-20384	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

Component	CAS-No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	97-1-90 (>1%)	Not applicable	Not applicable

Component	CAS-No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

Component	CAS-No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

Component	CAS-No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

Component	CAS-No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable

Component	CAS-No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable



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Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable
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**National Fire Association - Dangerous Substances** Minimum quantity requiring a permit

Component	CAS-No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

## Control Parameters

Component	CAS-No	Korea	Biological Exposure Indices
Water	7732-18-5	Not listed	Not listed
Sodium Salicylate	54-21-7	Not listed	Not listed
Sodium Citrate Dihydrate	6132-04-3	Not listed	Not listed
Sodium Nitroprusside Dihydrate	13755-38-9	Not listed	Not listed

## US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS-No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Water	7732-18-5	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable

## CERCLA

Not applicable

Component	CAS-No	CERCLA EHS RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Sodium Salicylate	54-21-7	Not applicable	Not applicable	Not applicable
Sodium Citrate Dihydrate	6132-04-3	Not applicable	Not applicable	Not applicable
Sodium Nitroprusside Dihydrate	13755-38-9	Not applicable	Not applicable	1.0

## CLP Classification - Regulation (EC) No 1272/2008

Warning.

H319 - Causes serious eye irritation.

P280 - Wear eye protection/ face protection. P264 - Wash face, hands and any exposed skin thoroughly after handling. P337 + P313 - If eye irritation persists: Get medical advice/ attention.

## SECTION 16: OTHER INFORMATION

Prepared By

Regulatory Affairs

Prepared For

Thermo Fisher Scientific Inc.©

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Reason for revision Initial Release.

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### Disclaimer

IMPORTANT: The information contained in this SDS is correct to the best of our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties of any kind as to the accuracy or completeness of the information contained herein or the merchantability or fitness of the product or this information for a particular purpose. It is the responsibility of each individual buyer/user to determine the suitability of this information and the product for its intended purposes. Product sales are subject to Thermo Fisher Scientifics standard terms and conditions of sale. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions, or is altered in any way. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable government requirements. Since conditions of use of the product are not under direct control of Thermo Fisher Scientific, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Thermo Fisher Scientific will not be liable for any injuries or damages resulting from handling, use, misuse or contact with the product.

**End of Safety Data Sheet**