

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Name : RLT 4711

1.2. Recommended use and restrictions on use

Recommended use : Return Line Treatment

1.3. Supplier

Kurita America Inc.
6600 94th Ave North
Minneapolis, MN 55445 - USA
T 866-663-7632
kai_sds@kurita-water.com - www.kuritaamerica.com

1.4. Emergency telephone number

Emergency number : CHEMTEL, For Chemical Emergency Call 800-255-3924 24hr/day 7days/week
Kurita America: 866-663-7633 International: +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 1B	H314 Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318 Causes serious eye damage.
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400 Very toxic to aquatic life.

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H400 - Very toxic to aquatic life.

Precautionary statements (GHS US) :

- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- 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 or doctor.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P363 - Wash contaminated clothing before reuse.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Ammonium hydroxide	(CAS-No.) 1336-21-6	5 – 15	Skin Corr. 1B, H314 Aquatic Acute 1, H400

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable.
- Explosion hazard : Not explosive.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
- Methods for cleaning up : Take up liquid spill into absorbent material.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available
Ammonium hydroxide (1336-21-6)
No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Face shield. Protective clothing.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : clear.
- Colour : white
- Odour : Pungent strong Ammoniacal
- Odour threshold : No data available
- pH : 11.1 – 12.1 (10%)
- Melting point : Not applicable
- Freezing point : No data available
- Boiling point : 27 °C Initial , Final 100°C

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Flash point	: Nonflammable (T.C.C.)
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Nonflammable (T.C.C.)
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.96
Solubility	: Completely soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
No data availableViscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Ammonium hydroxide (1336-21-6)

LD50 oral rat	> 350 mg/kg Source: HSDB
Skin corrosion/irritation	: Causes severe skin burns. pH: 11.1 – 12.1 (10%)
Serious eye damage/irritation	: Causes serious eye damage. pH: 11.1 – 12.1 (10%)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

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Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : This material is expected to be very toxic to aquatic life.

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LC50 - Fish [1]	0.024 mg/l Bluegill, 48 Hr
EC50 - Crustacea [1]	0.66 mg/l Water Flea, 48 Hr
LC50 - Fish [2]	8.2 mg/l Fathead Minnow, 96 Hr

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN2672 Ammonia solutions, 8, PG III
UN-No.(DOT)	: UN2672
Proper Shipping Name (DOT)	: Ammonia solutions
Class (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT)	: PG III - Minor Danger
Hazard labels (DOT)	: 8 - Corrosive



Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241

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DOT Special Provisions (49 CFR 172.102)	: 336 - When transported by private motor carrier only, the following corrosive liquids may be packaged in polyethylene bottles with a capacity no greater than 3.785L (one gallon), further packed inside an open-top, heavy wall, high density polyethylene box (i.e. crate) in a manner that the polyethylene bottles are not subjected to any superimposed weight, and the boxes must be reasonably secured against movement within the transport vehicle and loaded so as to minimize the possibility of coming in contact with other lading: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F). T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters", 52 - Stow "separated from" acids, 85 - Under deck stowage must be in mechanically ventilated space
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport document description (TDG)	: UN2672 AMMONIA SOLUTION (relative density between 0.880 and 0.957 at 15°C in water, with more than 10 percent but not more than 35 percent ammonia), 8, III
UN-No. (TDG)	: UN2672
Proper Shipping Name (TDG)	: AMMONIA SOLUTION
TDG Primary Hazard Classes	: 8 - Class 8 - Corrosives
Packing group (TDG)	: III - Minor Danger
Explosive Limit and Limited Quantity Index	: 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 L

Transport by sea

	: UN 2672 AMMONIA SOLUTION (relative density between 0.880 and 0.957 at 15°C in water, with more than 10 percent but not more than 35 percent ammonia), 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG)	: 2672
Proper Shipping Name (IMDG)	: AMMONIA SOLUTION
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

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Marine pollutant : Yes



Air transport

: UN 2672 Ammonia solution (relative density between 0.880 and 0.957 at 15°C in water, with more than 10 percent but not more than 35 percent ammonia), 8, III, ENVIRONMENTALLY HAZARDOUS

UN-No. (IATA) : 2672

Proper Shipping Name (IATA) : Ammonia solution

Class (IATA) : 8 - Corrosives

Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ammonium hydroxide	CAS-No. 1336-21-6	5 – 15%
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Ammonium hydroxide (1336-21-6)

CERCLA RQ	1000 lb
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15.2. International regulations

CANADA

Ammonium hydroxide (1336-21-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Ammonium hydroxide(1336-21-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date : 02/14/2022

Kurita - SDS US (GHS HazCom 2012)

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Author: Kurita Water Industries Ltd.

Revision Notes: Updated to GHS format

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