1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the product

Product number: A5077
Name of material: Ammonium Hydrogen Carbonate
CAS No.: 1066-33-7

1.2 Recommended use and restriction on use

General use : For experimental, research and industrial use
Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

1.3 Manufacturer / Supplier / Distributor information

Importer/distributors identification

Company : ASIA CHEMIE (THAILAND) CO., LTD.
Address : 44/27 Moo.4 T.Huaykapi A.Muangchonburi, Chonburi, Thailand. 20130
Telephone number : +66 3838 7988
Fax number : +66 3838 7989
E-mail : asiachemie@gmail.com, natchakot@asiachemie.com, natchakot@gmail.com

2. Hazards identification

2.1 GHS Classification

Acute toxicity (oral) : Category4
Skin corrosion/irritation : Category2
Serious eye damage/irritation : Category2A

2.2 GHS label elements

Hazard symbols

Signal words

- Warning

Hazard statements

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.

Precautionary statements

- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 Specific treatment
- P330 Rinse mouth.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3 Other hazards which do not result in classification: (NFPA Classification)

Not available

3. Composition/information on ingredients

Chemical Name	Synonyms	CAS No.	Concentration (%)
Ammonium hydrogen carbonate	Carbonic acid, monoammonium salt ; Carbonic acid, ammonium salt (1:1) ; Ammonium bicarbonate ; Acid ammonium carbonate ; Monoammonium carbonate ;	1066-33-7	100

4. First aid measures

4.1 Eye contact
- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Remove contact lenses if worn.

4.2 Skin contact
- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Wash thoroughly after handling.

4.3 Inhalation contact
- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

4.4 Ingestion contact
- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.

4.5 Delayed and immediate effects and also chronic effects from short and long term exposure
- Not available

4.6 Notes to physician
- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. Fire-fighting measures

5.1 Suitable (Unsuitable) extinguishing media
- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray.
- Avoid use of water jet for extinguishing.

5.2 Specific hazards arising from the chemical
- Not available

5.3 Special protective actions for firefighters
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Do not approach the tank surrounded by fire until it is extinguished.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Remove all sources of ignition.
- Avoid skin contact and inhalation.

6.2 Environmental precautions
- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

6.3 Methods and materials for containment and cleaning up
- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notify the central and local government if the emission reach the standard threshold.
- Disposal of waste shall be in compliance with the Wastes Control Act.
- Appropriate container for disposal of spilled material collected.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- Put the spilled material in an appropriate containers and clean the contaminated area.

7. Handling and storage

7.1 Precautions for safe handling
- Avoid contact with incompatible materials.
- Comply with all applicable laws and regulations for handling.
- Refer to Engineering controls and personal protective equipment.
- Operators should wear antistatic footwear and clothing.

7.2 Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Do not apply direct heat.
- Avoid direct sunlight.
- Please pay attention to incompatibilities materials and conditions to avoid.
- No open fire.
- Do not eat, drink or smoke when using this product.

8. Exposure controls/personal protection

8.1 Exposure limits

ACGIH TLV

- Not available

OSHA PEL

- Not available

8.2 Engineering controls

Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection

- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Dust, mist, fume-purifying respiratory protection.
- Air-purifying respirator with high-efficiency particulate filtering.
- Any respiratory protection with a electromotion fan (for dust, mist, fume-purifying).
- Self-contained breathing apparatus with a corpuscle filter of high efficiency
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Hand protection

- Wear appropriate glove.

Skin protection

- Wear appropriate clothing.

Others

- Not available

9. Physical and chemical properties

A. Appearance	
- Appearance	Solid (Other)
- Color	colorless to white
B. Odor	ammonia odor
C. Odor threshold	Not available
D. pH	7.8 (0.1N solution)
E. Melting point/Freezing point	35.0 ℃
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability (solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	0.000000735 mmHg (at 25℃)

Contact : info@qrec.asia, info@asiachemie.com

L. Solubility	water solubility: 17.4 % at 20℃ (soluble in glycerol, insoluble in acetone, alcohol)
M. Vapour density	2.7
N. Specific gravity (Relative density)	1.586
O. Partition coefficient of n-octanol/water	-3.08 (estimate)
P. Autoignition temperature	Not available
Q. Decomposition temperature	36~60 ℃
R. Viscosity	Not available
S. Molecular weight	79.06

10. Stability and reactivity

10.1 Chemical Stability
- This material is stable under recommended storage and handling conditions.

10.2 Possibility of hazardous reactions
- Hazardous Polymerization will not occur.

10.3 Conditions to avoid
- Avoid contact with incompatible materials and condition.
- Avoid: Accumulation of electrostatic charges, Heating, Flames and hot surfaces.

10.4 Incompatible materials
- Not available

10.5 Hazardous decomposition products
- May emit flammable vapour if involved in fire.

11. Toxicological information

11.1 Information on the likely routes of exposure

Respiratory tracts
- Not available

Oral
- Harmful if swallowed

Eye · Skin
- Causes serious eye irritation
- Causes skin irritation

11.2 Delayed and immediate effects and also chronic effects from short and long term exposure

Acute toxicity

*** Oral**
- [Ammonium hydrogencarbonate] : LD50 1576 mg/kg Rat (IUCLID)

*** Dermal**
- Not available

*** Inhalation**
- Not available

Skin corrosion/irritation
- Causes skin irritation

Serious eye damage/irritation
- Causes serious eye irritation

Respiratory sensitization
- Not available

Skin sensitization
- Not available

Carcinogenicity

*** IARC**
- Not available

*** OSHA**
- Not available

*** ACGIH**
- Not available

*** NTP**

- Not available

*** EU CLP**

- Not available

Germ cell mutagenicity

- Not available

Reproductive toxicity

- Not available

STOT-single exposure

- Not available

STOT-repeated exposure

- Not available

Aspiration hazard

- Not available

12. Ecological information

12.1 Ecotoxicity

Fish

- [Ammonium hydrogencarbonate] : LC50 17.3 mg/l 96 hr Oncorhynchus mykiss (ECOTOX)

Crustaceans

- [Ammonium hydrogencarbonate] : LC50 2630000 mg/l 48 hr (Estimate)

Algae

- [Ammonium hydrogencarbonate] : EC50 1230000 mg/l 96 hr (Estimate)

12.2 Persistence and degradability

Persistence

- [Ammonium hydrogencarbonate] : log Kow -3.08

Degradability

- Not available

12.3 Bioaccumulative potential

Bioaccumulative potential

- Not available

Biodegration

- Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects

Not available

13. Disposal considerations

13.1 Disposal methods

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable.
- It shall be treated by incineration.

13.2 Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

14. Transport information

14.1 UN No. (IMDG CODE/IATA DGR)

- 3077

14.2 Proper shipping name

- ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.

14.3 Hazard Class

- 9

14.4 IMDG CODE/IATA DGR Packing group

- III

Contact : info@qrec.asia, info@asiachemie.com

14.5 Marine pollutant
- Not applicable

14.6 Special precautions for user related to transport or transportation measures
- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-F (Water-soluble marine pollutants)

15. Regulatory information

15.1 National and/or international regulatory information

POPs Management Law
- Not applicable

Information of EU Classification

*** Classification**
- Not applicable

U.S. Federal regulations

*** OSHA PROCESS SAFETY (29CFR1910.119)**
- Not applicable

*** CERCLA Section 103 (40CFR302.4)**
- [Ammonium hydrogencarbonate] : 2267.995 kg 5000 lb

*** EPCRA Section 302 (40CFR355.30)**
- Not applicable

*** EPCRA Section 304 (40CFR355.40)**
- Not applicable

*** EPCRA Section 313 (40CFR372.65)**
- Not applicable

Rotterdam Convention listed ingredients
- Not applicable

Stockholm Convention listed ingredients
- Not applicable

Montreal Protocol listed ingredients
- Not applicable

16. Other information

Reason for the revision: General update.
Date: 25/8/2014

Revision #3
Date: 23/01/2020

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