

September, 10, 2018

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name Reaction Buffer

Product code GC304B

Company name GORYO Chemical, Inc.

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2. HAZARDS IDENTIFICATION

GHS classification Cannot be classified

Hazardous/Non-hazardous Components

Nocuous extremely low Effect on environment extremely low

Physically and chemical hazards The product contains no substances which at their given concentration,

are considered to be hazardous to health. We recommend handling all

chemicals with caution.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single or mixture Mixture

Compound name Reaction Buffer

Chemical Name	CAS No.	Chemical Formula	Content per Vial
Sodium hydrogen carbonate	144-55-8	NaHCO ₃	$0.84 \mathrm{wt}\%$
Water	7732-18-5	$_{\mathrm{H_2O}}$	99.16wt%

4. FIRST AID MEASURES

Skin contact

- · Wash off immediately with plenty of water. If symptoms persist, call a physician.
- · If skin stimulates or rash appears, call a physician.

Eye contact

- Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, consult a physician.
- · Take off your contact lens when wash with water.

Inhalation

- · Move to fresh air. If symptoms persist, consult a physician.
- · If feeling bad, call a physician.

Ingestion

- · Rinse mouth and throat.
- · Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Notes to physician

· Treat symptomatically.

Protection of first-aiders

· A rescuer should wear personal protective equipment, such as rubber gloves and airtight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Water spray, Alcohol resistance, Powder, Carbon dioxide Specifically dangerous hazards May emit hazardous nitrogen oxides and halogen compounds.

Extinguishing method

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

- · Use personal protective equipment. Keep people away from and upwind of spill/leak.
- · Remove ignition source around product.

Environmental precautions

· Prevent product from entering drains.

Methods and materials for containment and cleaning up

• Do not touch spilled material without suitable protection. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

7. HANDLING AND STORAGE

Handling

Technical measures

- · Handling is performed in a well-ventilated place.
- · Avoid contact with skin, eyes and clothing.
- · Wear suitable protective equipment.
- · Wash hands and face thoroughly after handling.
- · Use a local exhaust if dust or aerosol will be generated.

Advice on safe handling

- · Handle in accordance with good industrial hygiene and safety practice.
- Vessel shouldn't be treated violently, such as rolling, shocking or dragging.

Storage

Storage conditions

- · Keep container tightly closed. Store in a dark place under -20 degrees Celsius.
- · Avoid long storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls

Install a closed system or local exhaust. Also install safety shower and eye bath.

Control parameters

Not set up

Personal protective equipment

Respiratory protection Dust respirator
Hand protection Protective gloves
Eye protection Safety glasses.

Skin and body protection Protective clothing. Protective boots, if the situation requires

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (color/form) colorless /liquid

Odor none

No data available рΗ Melting point/freezing point No data available Boiling Point/Range No data available Flash Point No data available Explosive limits No data available Lower No data available Upper No data available No data available Density Solubility Soluble to water

Molecular weight No data available

10. STABILITY AND REACTIVITY

Stability Stable under proper conditions.

Reactivity No special reactivity has been reported.

Incompatible materials Strong oxidative reagents, reducing agents

Hazardous Decomposition Products

Nitrogen oxide, Halogenated organics, Carbon monooxide, Carbon dioxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity No data available No data available Skin corrosion/irritation Serious eye damage/irritation No data available Inhalation No data available Germ cell mutagenicity No data available Carcinogenicity No data available No data available reproduction toxicity No data available Target Organ Effects

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Mobility

No information available.

No information available.

No information available bioaccumulation

Does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Chemical materials

- You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system.
- Dispose of in accordance with local regulations

Polluted vessels and package

· Wash thoroughly before disposal.

14. TRANSPORT INFORMATION

Hazards Class Does not correspond to the classification standard of the United Nations

IATA

Proper shipping name Not classified as dangerous in the meaning of transport regulations

Hazard Class No information available
Subsidiary Class No information available
Packing group No information available
UN-No No information available

15. JAPANESE REGULATORY INFORMATION

Not applicable

16. OTHER INFORMATION

- · International Chemical Safety Card (ICSC) database in Japanese (National Institute of Health Sciences)
- This MSDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity.
- Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used.
- · Some new information or amendments may be added afterwards.
- If the products are to be used far behind the expected time of use or if you have any questions, please feel free to contact us.