

## Material Safety Data Sheet



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### 1. Identification of substance

#### *Product details*

- **Trade name:** Buffer R-II
- **MSDS No.:** BR-II

### 2. Composition/Data on components

#### *Chemical characterization*

- **Description:** Mixture of the substances listed below with non-hazardous additions.
- **Dangerous components:**

50-01-1 guanidinium hydrochloride 15-25%

7646-85-7 zinc chloride 3-5%

### 3. Hazards identification

- **Hazard description:** Harmful
- **Information pertaining to particular dangers for man and environment:**

Irritating to eyes and skin.

Flammable

Harmful if swallowed

- **Classification system:** The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0-4)**

Health = 3

Fire = 3

Reactivity = 0

- **WHMIS-ratings (scale 0-4)**

Health = 3

Fire = 3

Reactivity = 0

### 4. First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air. Consult a physician if symptoms appear/persist.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse affected eye opened for several minutes under running water. Consult a physician.
- **After swallowing:** Immediately seek medical advice/assistance.

### 5. Fire fighting measures

- **Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight

larger fires with water spray or alcohol resistant foam.

Protective equipment: Do not inhale explosion gases or combustion gases.

## 6. Accidental release measures

- **Person-related safety precautions:** Ensure adequate ventilation
- **Measures for environmental protection:** Do not allow to enter sewers/surface or ground water.
- **Measures for cleaning/collecting:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

## 7. Handling and storage

### *Handling*

- **Information for safe handling:** Keep receptacles tightly sealed.

Ensure adequate ventilation.

- **Information about protection against explosions and fires:** No special measures required.
- **Information about storage in one common storage facility:** Do not store with acids.
- **Further information about storage conditions:** Keep all receptacles tightly sealed.

## 8. Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** This product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

### *Personal protective equipment*

- **General protective and hygienic measures:**

Keep away from foodstuffs.

Wash hands frequently.

Avoid contact with eyes and skin.

- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves
- **Eye protection:** Tightly sealed goggles

## 9. Physical and chemical properties

- **Form:** Fluid
- **Color:** Colorless
- **Odor:** Characteristic

### *Change in condition*

- **Melting point/melting range:** Undetermined.
- **Boiling point/boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Auto-ignition:** Product is not self-igniting.
- **Danger of explosion:** Product is not explosive. However, formation of an explosive

air/vapor mixture is possible.

- **Vapor pressure at 20°C:** 23 hPa
- **Density at 20°C:** 1.05 g/cm<sup>3</sup>
- **Solubility in water:** Fully soluble.

#### 10. Stability and reactivity

- **Thermal decomposition/conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions:** Reacts with acids, alkalis and oxidizing agents.
- **Dangerous products of decomposition:** Danger of toxic pyrolysis products.

#### 11. Toxicological information

##### *Acute toxicity*

##### *Primary irritant effect*

- **On the skin:** Irritant to skin and mucous membranes.
- **In the eyes:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **This product exhibits the following dangers according to internally approved calculation methods for preparations:**

Harmful

Irritating

#### 12. Ecological information

##### *General notes*

- **Water Hazard Class 1 (Self-assessment):** Hazardous for water.

Do not allow product or large quantities of it to reach ground water, water course or sewage system.

#### 13. Disposal considerations

- **Product recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

#### 14. Transport information

##### *DOT regulations*

- **Hazard class:** 8
- **Identification number:** UN2331
- **Packing group:** III
- **Proper shipping name (technical name):** ZINC CHLORIDE, ANHYDROUS

##### *Land transport ADR/RID (cross-border)*

- **ADR/RID class:** 8 Flammable liquids
- **UN-Number:** 2331
- **Packing group:** III
- **Description of goods:** 2331 ZINC CHLORIDE, ANHYDROUS

##### *Maritime transport IMDG*

- **IMDG Class:** 8

- **UN-Number:** 2331
- **Packing group:** III
- **EMS Number:** F-E, S-D
- **Marine pollutant:** No
- **Proper shipping name (technical name):** ZINC CHLORIDE, ANHYDROUS

***Air transport ICAO-TI and IATA-DGR***

- **ICAO/IATA Class:** 3

**15. Regulations**

- **UN-Number:** 2331
- **Packing group:** III
- **Proper shipping name (technical name):** ZINC CHLORIDE, ANHYDROUS

***15 Regulations***

- **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:** None of the ingredients is listed.
- **Product related hazard information:** This product has been classified and marked in accordance with directives on hazardous materials.
- **Hazard symbols:** Harmful.
- **Hazard-determining components of labeling:** Guanidinium isothiocyanate.
- **Risk phrases:**

Harmful by inhalation, in contact with skin and if swallowed.

Contacts with acids liberates a very toxic gas.

- **Safety phrases:**

Keep away from food, drink and animal feed.

In case of contact with eyes, rinse immediately with large volumes of water. Seek medical advice.

Wear suitable protective clothing.

If swallowed, seek medical advice immediately and show this container or label.

***National regulations***

- **Technical instructions (air):**

Class share in %

III 2.5-50

***Water hazard class***

- **Water Hazard Class 1 (Self-assessment):** Hazardous for water.

**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.