

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

1 Identification

- **Product identifier**
- **Trade name:** Rio Dry Mix Electrolyte Compound
- **Article number:** 500-223
- **CAS Number:**
1310-73-2
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** Contact manufacturer.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
RIO GRANDE
7500 Bluewater Rd. NW
Albuquerque NM 87121-1962
1-800-545-6566
info@riogrande.com
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

- **Additional information:**

There are no other hazards not otherwise classified that have been identified.
0 percent of the mixture consists of ingredient(s) of unknown toxicity.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sodium hydroxide

- **Hazard statements**

H314 Causes severe skin burns and eye damage.

- **Precautionary statements**

P260

Do not breathe dust.

P264

Wash thoroughly after handling.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 1)

- P280 Wear protective gloves and eye protection.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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/doctor.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P363 Wash contaminated clothing before reuse.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard description:**

- **WHMIS-symbols:**

As of 11 February 2015, the current WHMIS system is being replaced by the GHS system. This is the classification under the older system.

D2B - Toxic material causing other toxic effects

E - Corrosive material



- **Classification system:**

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



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



- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

1310-73-2 sodium hydroxide

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 2)

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After skin contact:**
Brush off loose particles from skin.
Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
Seek immediate medical help for blistering or open wounds.
- **After eye contact:**
Protect unharmed eye.
Rinse opened eye for several minutes under running water. Then consult a doctor.
Do not remove contact lenses if worn.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
Strong caustic effect on skin and mucous membranes.
Strong irritant with the danger of severe eye injury.
Gastric or intestinal disorders
Coughing
Breathing difficulty
- **Danger**
Danger of impaired breathing.
Danger of gastric perforation.
Causes serious eye damage.
- **Indication of any immediate medical attention and special treatment needed**
If necessary oxygen respiration treatment.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

· **Additional information** No further relevant information available.

(Contd. of page 3)

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

Avoid formation of dust.

Product forms slippery surface when combined with water.

Ensure adequate ventilation.

· **Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up:**

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

Clean the affected area carefully; suitable cleaners are:

Warm water

Dispose contaminated material as waste according to item 13.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Prevent formation of dust.

Any deposit of dust which cannot be avoided must be regularly removed.

Use only in well ventilated areas.

· **Information about protection against explosions and fires:** The product is not flammable.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Protect from humidity and water.

Unsuitable material for receptacle: steel.

Unsuitable material for receptacle: glass or ceramic.

Unsuitable material for receptacle: aluminium.

Provide ventilation for receptacles.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

· **Further information about storage conditions:**

This product is hygroscopic.

Keep containers tightly sealed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 4)

- Avoid prolonged contact with air / oxygen.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

1310-73-2 sodium hydroxide

PEL (USA)	Long-term value: 2 mg/m ³
REL (USA)	Ceiling limit value: 2 mg/m ³
TLV (USA)	Ceiling limit value: 2 mg/m ³
EL (Canada)	Ceiling limit value: 2 mg/m ³
EV (Canada)	Ceiling limit value: 2 mg/m ³
LMPE (Mexico)	Ceiling limit value: 2 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

- **Engineering controls:** Provide adequate ventilation.

- **Breathing equipment:**

Not required under normal conditions of use.

Use suitable respiratory protective device when high concentrations are present.

Use suitable respiratory protective device in case of insufficient ventilation.

For spills, respiratory protection may be advisable.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 5)

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR
Nitrile rubber, NBR
PVC gloves
Natural rubber, NR

· **Not suitable are gloves made of the following materials: PVA gloves**

· **Eye protection:**

Contact lenses should not be worn.



Safety glasses

· **Body protection:** Alkaline resistant protective clothing

· **Limitation and supervision of exposure into the environment** Avoid release to the environment.

· **Risk management measures** See Section 7 for additional information.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Flakes

· **Color:** White

· **Odor:** Mild

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· **Melting point/Melting range:** 360-380 °C (680-716 °F)

· **Boiling point/Boiling range:** 1320 °C (2408 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapor pressure:** Not applicable.

· **Density at 20 °C (68 °F):** 2.04 g/cm³ (17.024 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not applicable.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 6)

- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with Water at 20 °C (68 °F):** 530 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
 - Corrosive action on metals.
 - Diluting or dissolving in water always causes rapid heating.
 - Strong exothermic reaction with acids.
 - Reacts with fats and oils.
 - Reacts with humid air.
 - Reacts with carbon dioxide.
 - Attacks materials containing glass and silicate.
- **Conditions to avoid** Moisture.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Corrosive gases/vapors

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

1310-73-2 sodium hydroxide

Oral	LD50	2000 mg/kg (rat)
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- **Primary irritant effect:**
 - on the skin:** Strong caustic effect on skin and mucous membranes.
 - on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 - Danger through skin absorption.
 - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
 - 0 percent of the mixture consists of ingredient(s) of unknown toxicity.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 7)

- **Carcinogenic categories**

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

- **Probable Routes of Exposure**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.

- **Repeated Dose Toxicity:** No further relevant information available.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** Based on available data, the classification criteria are not met.

- **STOT-single exposure** Based on available data, the classification criteria are not met.

- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability**

Inorganic product, is not eliminable from water by means of biological cleaning processes.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** Does not accumulate in organisms

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** After neutralization a reduction of the harming action may be recognized

- **Additional ecological information:**

- **General notes:**

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

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Other adverse effects** No further relevant information available.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 8)

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- **DOT, ADR, IMDG, IATA**

UN1823

- **UN proper shipping name**



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 1.0 kg (2.2 lb).

- **DOT, IATA**

Sodium hydroxide, solid

- **ADR**

1823 SODIUM HYDROXIDE, SOLID

- **IMDG**

SODIUM HYDROXIDE, SOLID

- **Transport hazard class(es)**

- **DOT**



- **Class**

8 Corrosive substances

- **Label**

8

- **ADR**



- **Class**

8 (C6) Corrosive substances

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)


Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 9)

· Label	8

· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg
· Hazardous substance:	1000 lbs, 454 kg

· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN1823, Sodium hydroxide, solid, 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 10)

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Proposition 65 (California)**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **State Right to Know Listings**

Substance is not listed.

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

Substance is listed.

- **Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is not listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

Substance is listed.

- **Other regulations, limitations and prohibitive regulations**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- **Date of preparation / last revision** 06/17/2015 / -

(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/17/2015

Reviewed on 06/17/2015

Trade name: Rio Dry Mix Electrolyte Compound

(Contd. of page 11)

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

· Sources

SDS Prepared by:

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