

## Safety Data Sheet

acc. to OSHA HCS

Printing date 09/25/2019

Reviewed on 09/25/2019

### 1 Identification

- **Product identifier**
- **Trade name:** SR-2 Simulated Rainwater 2
- **Article number:** SR-2
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 High-Purity Standards  
 PO Box 41727 Charleston, SC 29423 United States  
 Telephone: +1-843-767-7900  
 Fax: +1-843-767-7906  
 highpuritystandards.com  
 Email: info@highpuritystandards.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 INFOTRAC  
 Emergency telephone numbers 1-800-535-5053  
 Other emergency telephone numbers 1-352-323-3500

### 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

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· **Dangerous components:** Void

· **Chemical identification of the substance/preparation**

7732-18-5	water, distilled, conductivity or of similar purity	99.992%
7487-88-9	magnesium sulphate	0.000001-0.001%
7631-99-4	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen	0.00001-0.001%
7647-01-0	hydrochloric acid	0.00001-0.001%
7681-49-4	sodium fluoride	0.00001-0.001%
7697-37-2	nitric acid	0.00001-0.001%
7757-79-1	potassium nitrate	0.00001-0.001%
7783-20-2	ammonium sulphate	0.00001-0.001%
22691-02-7	calcium chloride, hydrate	0.000001-0.001%

**4 First-aid measures**

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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.

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**· Protective Action Criteria for Chemicals**

**· PAC-1:**

7487-88-9	magnesium sulphate	20 mg/m <sup>3</sup>
7631-99-4	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen	4.1 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	1.8 ppm
7681-49-4	sodium fluoride	17 mg/m <sup>3</sup>
7697-37-2	nitric acid	0.16 ppm
7757-79-1	potassium nitrate	9 mg/m <sup>3</sup>
7783-20-2	ammonium sulphate	13 mg/m <sup>3</sup>
22691-02-7	calcium chloride, hydrate	13 mg/m <sup>3</sup>

**· PAC-2:**

7487-88-9	magnesium sulphate	220 mg/m <sup>3</sup>
7631-99-4	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen	45 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	22 ppm
7681-49-4	sodium fluoride	90 mg/m <sup>3</sup>
7697-37-2	nitric acid	24 ppm
7757-79-1	potassium nitrate	100 mg/m <sup>3</sup>
7783-20-2	ammonium sulphate	140 mg/m <sup>3</sup>
22691-02-7	calcium chloride, hydrate	140 mg/m <sup>3</sup>

**· PAC-3:**

7487-88-9	magnesium sulphate	1,300 mg/m <sup>3</sup>
7631-99-4	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen	270 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid	100 ppm
7681-49-4	sodium fluoride	1,100 mg/m <sup>3</sup>
7697-37-2	nitric acid	92 ppm
7757-79-1	potassium nitrate	600 mg/m <sup>3</sup>
7783-20-2	ammonium sulphate	840 mg/m <sup>3</sup>
22691-02-7	calcium chloride, hydrate	850 mg/m <sup>3</sup>

**7 Handling and storage**

**· Handling:**

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

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

**· Storage:**

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

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· **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:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **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.
- **Eye protection:** Goggles recommended during refilling.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	colorless
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.
- **pH-value:** Not determined.
- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.

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· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.99992-1.00015 g/cm <sup>3</sup> (8.34433-8.34625 lbs/gal)
· <b>Bulk density:</b>	1,000 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	100.0 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal
· <b>Solids content:</b>	0 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

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· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

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

7647-01-0	hydrochloric acid	3
7681-49-4	sodium fluoride	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

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

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

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

· **Additional ecological information:**

· **General notes:** Not hazardous for water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

**13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:** Smaller quantities can be disposed of with household waste.

· **Uncleaned packagings:**

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

**14 Transport information**

· **UN-Number**

· **DOT, ADR, IMDG, IATA** not regulated

· **UN proper shipping name**

· **DOT, ADR, IMDG, IATA** not regulated

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· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	not regulated
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	not regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	not regulated

**15 Regulatory information**

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· <b>Section 355 (extremely hazardous substances):</b>		
7647-01-0	hydrochloric acid	
7697-37-2	nitric acid	

· <b>Section 313 (Specific toxic chemical listings):</b>		
7647-01-0	hydrochloric acid	
7697-37-2	nitric acid	
7757-79-1	potassium nitrate	
7783-20-2	ammonium sulphate	

· <b>TSCA (Toxic Substances Control Act):</b>		
7732-18-5	water, distilled, conductivity or of similar purity	ACTIVE
7487-88-9	magnesium sulphate	ACTIVE
7631-99-4	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen	ACTIVE
7647-01-0	hydrochloric acid	ACTIVE
7681-49-4	sodium fluoride	ACTIVE
7697-37-2	nitric acid	ACTIVE
7757-79-1	potassium nitrate	ACTIVE
7783-20-2	ammonium sulphate	ACTIVE

· <b>Hazardous Air Pollutants</b>		
7647-01-0	hydrochloric acid	

· **Proposition 65**

· <b>Chemicals known to cause cancer:</b>		
None of the ingredients is listed.		

· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients is listed.		

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

None of the ingredients is listed.

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

None of the ingredients is listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

7647-01-0 hydrochloric acid

A4

7681-49-4 sodium fluoride

A4

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

None of the ingredients is listed.

**· GHS label elements** Void

**· Hazard pictograms** Void

**· Signal word** Void

**· Hazard statements** Void

**· 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.

**· Department issuing SDS:** Environment protection department.

**· Contact:**

High-Purity Standards

Tel: 843-767-7900

Fax: 843-767-7906

**· Date of preparation / last revision** 09/25/2019 / -

**· 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*
*EINECS: European Inventory of Existing Commercial Chemical Substances*
*ELINCS: European List of Notified Chemical Substances*
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*
*NFPA: National Fire Protection Association (USA)*
*HMIS: Hazardous Materials Identification System (USA)*
*VOC: Volatile Organic Compounds (USA, EU)*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*NIOSH: National Institute for Occupational Safety*
*OSHA: Occupational Safety & Health*
*TLV: Threshold Limit Value*
*PEL: Permissible Exposure Limit*
*REL: Recommended Exposure Limit*