

## 1 . Product and company identification

|                                    |                          |
|------------------------------------|--------------------------|
| <b>Product name</b>                | : EP/New Horizon - 1S    |
| <b>Supplier</b>                    | :                        |
| <b>Code</b>                        | : 113002-1S              |
| <b>Validation date</b>             | : <b>20 January 2012</b> |
| <b><u>In case of emergency</u></b> | :                        |
|                                    | Chemtrec: 1-800-424-9300 |
| <b>Product type</b>                | : Liquid.                |

## 2 . Hazards identification

|   |   |
|---|---|
| <b>Physical state</b>                                 | : Liquid.   |
| <b>Odor</b>   | : Odorless  |
| <b>OSHA/HCS status</b>                                | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).   |
| <b>Emergency overview</b>                             | : CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.<br>Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Contains material that can cause target organ damage. |
| <b>Routes of entry</b>                                | : Dermal contact. Eye contact. Ingestion.   |
| <b><u>Potential acute health effects</u></b>          |   |
| <b>Inhalation</b>                                     | : No known significant effects or critical hazards.   |
| <b>Ingestion</b>                                      | : No known significant effects or critical hazards.   |
| <b>Skin</b>   | : No known significant effects or critical hazards.   |
| <b>Eyes</b>   | : No known significant effects or critical hazards.   |
| <b><u>Potential chronic health effects</u></b>        |   |
| <b>Chronic effects</b>                                | : Contains material that can cause target organ damage.   |
| <b>Carcinogenicity</b>                                | : No known significant effects or critical hazards.   |
| <b>Mutagenicity</b>                                   | : No known significant effects or critical hazards.   |
| <b>Teratogenicity</b>                                 | : No known significant effects or critical hazards.   |
| <b>Developmental effects</b>                          | : No known significant effects or critical hazards.   |
| <b>Fertility effects</b>                              | : No known significant effects or critical hazards.   |
| <b>Target organs</b>                                  | : Contains material which causes damage to the following organs: lungs, upper respiratory tract, skin, eye, lens or cornea.   |
| <b><u>Over-exposure signs/symptoms</u></b>            |   |
| <b>Inhalation</b>                                     | : No specific data.   |
| <b>Ingestion</b>                                      | : No specific data.   |
| <b>Skin</b>   | : No specific data.   |
| <b>Eyes</b>   | : No specific data.   |
| <b>Medical conditions aggravated by over-exposure</b> | : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.  |

See toxicological information (section 11)

### 3 . Composition/information on ingredients

| <u>Name</u>     | <u>CAS number</u> | <u>%</u> |
|-----------------|-------------------|----------|
| water           | 7732-18-5         | 50 - 75  |
| aluminium oxide | 1344-28-1         | 10 - 40  |
| Proprietary     | -                 | -        |

### 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5 . Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section

## 6 . Accidental release measures

1 for emergency contact information and section 13 for waste disposal.

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

### Product name

aluminium oxide

### Exposure limits

**ACGIH TLV (United States, 1/2007). Notes: 1996 Adoption Refers to Appendix A -- Carcinogens. The value is for total dust containing no asbestos and < 1% crystalline silica.**

TWA: 10 mg/m<sup>3</sup> 8 hour(s).

**NIOSH REL (United States, 12/2001). Notes: as Al**

TWA: 5 mg/m<sup>3</sup>, (as Al) 10 hour(s).

**OSHA PEL (United States, 11/2006).**

TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction

TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust

**OSHA PEL 1989 (United States, 3/1989).**

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Dust

TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction

Proprietary

**AIHA WEEL (United States, 1/2007). Notes: 2004 Revised Document**

TWA: 10 mg/m<sup>3</sup> 8 hour(s).

**Consult local authorities for acceptable exposure limits.**

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

- Engineering measures** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

## 8 . Exposure controls/personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products.
- Eyes** : Safety eyewear complying with an approved standard should be used to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

- Physical state** : Liquid.
- Color** : White.
- Odor** : Odorless
- Solubility** : Easily soluble in the following materials: cold water and hot water.

## 10 . Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11 . Toxicological information

### Acute toxicity

| Product/ingredient name | Result                           | Species | Dose        | Exposure |
|-------------------------|----------------------------------|---------|-------------|----------|
| Proprietary             | LD50 Dermal                      | Rabbit  | 20800 mg/kg | -        |
|                         | LD50 Intramuscular               | Rat     | 14 g/kg     | -        |
|                         | LD50 Intramuscular               | Rat     | 20000 mg/kg | -        |
|                         | LD50 Intraperitoneal             | Rat     | 6660 mg/kg  | -        |
|                         | LD50 Intravenous                 | Rat     | 6800 mg/kg  | -        |
|                         | LD50 Intravenous                 | Rat     | 6423 mg/kg  | -        |
|                         | LD50 Oral                        | Rat     | 20 g/kg     | -        |
|                         | LD50 Subcutaneous                | Rat     | 28000 mg/kg | -        |
|                         | LD50 Subcutaneous                | Rat     | 22500 mg/kg | -        |
|                         | TDL <sub>o</sub> Intraperitoneal | Rat     | 19500 mg/kg | -        |

**Conclusion/Summary** : Not available.

### Chronic toxicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

## 11 . Toxicological information

### Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|-------------------------|-------|------|-----|-------|-----|------|
| aluminium oxide         | A4    | -    | -   | -     | -   | -    |

### Mutagenicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

## 12 . Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

| Product/ingredient name | Test | Result   | Species  | Exposure |
|-------------------------|------|--|--|----------|
| Proprietary             | -    | Acute EC50<br>>10000000 ug/L<br>Fresh water      | Daphnia - Water<br>flea - Daphnia<br>magna                             | 48 hours |
|                         | -    | Acute LC50<br>15052 to 17561<br>mg/L Fresh water | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia                     | 48 hours |
|                         | -    | Acute LC50 5122<br>to 6011 mg/L<br>Fresh water   | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia                     | 48 hours |
|                         | -    | Acute LC50 4919<br>mg/L Fresh water              | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia                     | 48 hours |
|                         | -    | Acute LC50 44 to<br>47 ml/L Fresh<br>water       | Fish - Rainbow<br>trout,donaldson<br>trout -<br>Oncorhynchus<br>mykiss | 96 hours |
|                         | -    | Acute LC50<br>34060 to 39339<br>mg/L Fresh water | Fish - Fathead<br>minnow -<br>Pimephales<br>promelas                   | 96 hours |
|                         | -    | Acute LC50<br>1020000 ug/L<br>Fresh water        | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia                     | 48 hours |
|                         | -    | Acute LC50<br>710000 ug/L<br>Fresh water         | Fish - Fathead<br>minnow -<br>Pimephales<br>promelas                   | 96 hours |
|                         | -    | Acute LC50<br>>62000000 ug/L<br>Fresh water      | Fish - Fathead<br>minnow -<br>Pimephales<br>promelas                   | 96 hours |
|                         | -    | Acute LC50<br>55770000 ug/L<br>Fresh water       | Fish - Fathead<br>minnow -<br>Pimephales<br>promelas                   | 96 hours |
|                         | -    | Acute LC50<br>18340000 ug/L<br>Fresh water       | Daphnia - Water<br>flea -<br>Ceriodaphnia                              | 48 hours |

## 12 . Ecological information

|   |  |   |          |
|---|--|---|----------|
| - | Chronic NOEC<br>600000 ug/L<br>Fresh water   | dubia<br>Fish - Fathead<br>minnow -<br>Pimephales<br>promelas | 96 hours |
| - | Chronic NOEC<br>52930000 ug/L<br>Fresh water | Fish - Fathead<br>minnow -<br>Pimephales<br>promelas          | 96 hours |
| - | Chronic NOEC<br>660000 ug/L<br>Fresh water   | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia            | 48 hours |
| - | Chronic NOEC<br>13020000 ug/L<br>Fresh water | Daphnia - Water<br>flea -<br>Ceriodaphnia<br>dubia            | 48 hours |

|                              |   |
|------------------------------|---|
| <b>Conclusion/Summary</b>    | : Not available.                                    |
| <b>Biodegradability</b>      |   |
| <b>Conclusion/Summary</b>    | : Not available.                                    |
| <b>Other adverse effects</b> | : No known significant effects or critical hazards. |

## 13 . Disposal considerations

|                       |   |
|-----------------------|---|
| <b>Waste disposal</b> | : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
|-----------------------|---|

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14 . Transport information

| Regulatory information       | UN number      | Proper shipping name | Classes | PG* | Label | Additional information |
|------------------------------|----------------|----------------------|---------|-----|-------|------------------------|
| <b>DOT Classification</b>    | Not regulated. | -                    | -       | -   |       | -                      |
| <b>TDG Classification</b>    | Not regulated. | -                    | -       | -   |       | -                      |
| <b>Mexico Classification</b> | Not regulated. | -                    | -       | -   |       | -                      |
| <b>ADR/RID Class</b>         | Not regulated. | -                    | -       | -   |       | -                      |
| <b>IMDG Class</b>            | Not regulated. | -                    | -       | -   |       | -                      |
| <b>IATA-DGR Class</b>        | Not regulated. | -                    | -       | -   |       | -                      |

PG\* : Packing group

## 15 . Regulatory information

### United States

- HCS Classification** : Target organ effects
- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.  
**SARA 302/304/311/312 extremely hazardous substances**: No products were found.  
**SARA 302/304 emergency planning and notification**: No products were found.  
**SARA 302/304/311/312 hazardous chemicals**: aluminium oxide; Proprietary  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**:  
aluminium oxide: Immediate (acute) health hazard; Proprietary: Immediate (acute) health hazard, Delayed (chronic) health hazard  
**Clean Water Act (CWA) 307**: No products were found.  
**Clean Water Act (CWA) 311**: No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention**: No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances**: No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances**: No products were found.

### SARA 313

|  | <u>Product name</u> | <u>CAS number</u> | <u>Concentration</u> |
|--|---------------------|-------------------|----------------------|
| <b>Form R - Reporting requirements</b> | : aluminium oxide   | 1344-28-1         | 10 - 40              |
| <b>Supplier notification</b>           | : aluminium oxide   | 1344-28-1         | 10 - 40              |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

- State regulations** : **Connecticut Carcinogen Reporting**: None of the components are listed.  
**Connecticut Hazardous Material Survey**: None of the components are listed.  
**Florida substances**: None of the components are listed.  
**Illinois Chemical Safety Act**: None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act**: None of the components are listed.  
**Louisiana Reporting**: None of the components are listed.  
**Louisiana Spill**: None of the components are listed.  
**Massachusetts Spill**: None of the components are listed.  
**Massachusetts Substances**: The following components are listed: ALUMINUM OXIDE  
**Michigan Critical Material**: None of the components are listed.  
**Minnesota Hazardous Substances**: None of the components are listed.  
**New Jersey Hazardous Substances**: The following components are listed: ALUMINUM OXIDE  
**New Jersey Spill**: None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act**: None of the components are listed.  
**New York Acutely Hazardous Substances**: None of the components are listed.  
**New York Toxic Chemical Release Reporting**: None of the components are listed.  
**Pennsylvania RTK Hazardous Substances**: The following components are listed: ALUMINUM OXIDE (AL<sub>2</sub>O<sub>3</sub>);Proprietary  
**Rhode Island Hazardous Substances**: None of the components are listed.

- United States inventory (TSCA 8b)** : **United States inventory (TSCA 8b)**: All components are listed or exempted.

### Canada

- WHMIS (Canada)** : Not controlled under WHMIS (Canada).
- Canadian lists** : **CEPA Toxic substances**: None of the components are listed.  
**Canadian ARET**: None of the components are listed.  
**Canadian NPRI**: The following components are listed: Aluminum oxide  
**Alberta Designated Substances**: None of the components are listed.  
**Ontario Designated Substances**: None of the components are listed.  
**Quebec Designated Substances**: None of the components are listed.
- Canada inventory** : **Canada inventory**: All components are listed or exempted.

## 15 . Regulatory information

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

### EU regulations

**Risk phrases** : This product is not classified according to EU legislation.

### International regulations

**International lists** :

- Australia inventory (AICS):** All components are listed or exempted.
- China inventory (IECSC):** All components are listed or exempted.
- Korea inventory (KECI):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.
- Japan inventory (ENCS):** All components are listed or exempted.
- Japan inventory (ISHL):** Not determined.

## 16 . Other information

**Label requirements** : CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

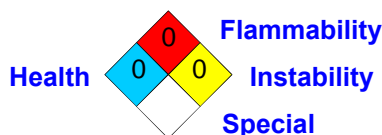
**Hazardous Material Information System (U.S.A.)** :

|                  |   |
|------------------|---|
| Health           | 1 |
| Flammability     | 0 |
| Physical hazards | 0 |
|                  |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** :



**Date of issue** : 20 January 2012

**Date of previous issue** : No previous validation.

**Version** : 1

☑ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.