

SAFETY DATA SHEET

1. Identification

Product identifier: POTASSIUM HYDROXIDE

Other means of identification

Synonyms: Caustic Potash, Potassium Hydrate **Product No.:** 3116, 7815, 3152, 3141, 3150, 3146, 3140, 6984, 6976, 6598

Recommended use and restriction on use

Recommended use: Not available. Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

| Company Name: | Avantor Performance Materials, Inc. |
|-----------------|-------------------------------------|
| Address: | 3477 Corporate Parkway, Suite 200 |
| | Center Valley, PA 18034 |
| Telephone: | |
| | Customer Service: 855-282-6867 |
| Fax: | |
| Contact Person: | Environmental Health & Safety |
| e-mail: | info@avantormaterials.com |
| | |

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

| Physical hazards | |
|--------------------------------------------------|------------|
| Corrosive to metals | Category 1 |
| Health hazards | |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity - single exposure | Category 3 |
| | |
| Unknown toxicity | |
| Acute toxicity, inhalation, dust or mist | 100 % |
| Environmental hazards | |
| Acute hazards to the aquatic environment | Category 3 |
| Unknown toxicity | |
| Chronic hazards to the aquatic environment | 85 % |
| Label elements | |
| Hazard symbol: | |



| Signal word: | Danger |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazard statement: | May be corrosive to metals. Causes severe skin burns and eye damage. May cause respiratory irritation. Harmful to aquatic life. |
| Precautionary statemen | t |
| Prevention: | Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep only in original container. Wash hands thoroughly after handling. Avoid release to the environment. |
| Response: | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Get immediate medical advice/attention. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| Storage: | Store in corrosive resistant container with a resistant inner liner. Store locked up. Store in a well-ventilated place. Keep container tightly closed. |
| Disposal: | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| Other hazards which do not result in GHS classification: | None. |

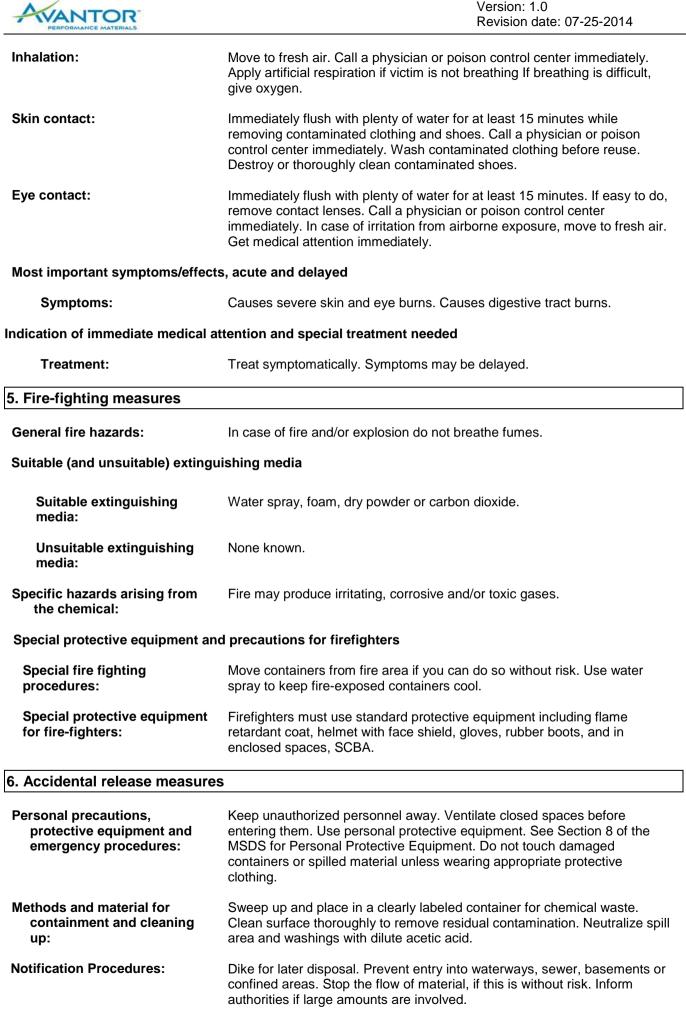
3. Composition/information on ingredients

Mixtures

| Chemical identity | Common name and synonyms | CAS number | Content in percent (%)* |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------|-------------------------|
| POTASSIUM HYDROXIDE | | 1310-58-3 | 80 - 90% |
| * All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. | | | |

4. First-aid measures

| General information: | Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance. |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion: | Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |





| Environmental precautions: | Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7. Handling and storage | |
| Precautions for safe handling: | Avoid inhalation of dust and vapors. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product. |
| Conditions for safe storage, including any incompatibilities: | Do not store in metal containers. Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place. |

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Chemical identity | Туре | Exposure Limit values | Source |
|---------------------|---------|-----------------------|-------------------------------------------------------|
| POTASSIUM HYDROXIDE | Ceiling | 2 mg/m3 | US. ACGIH Threshold Limit Values (2011) |
| | REL | 2 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | Ceiling | 2 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

| General information: | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye/face protection: | Wear safety glasses with side shields (or goggles) and a face shield. |
| Skin protection Hand protection: | Chemical resistant gloves |
| Other: | Wear appropriate clothing to prevent reasonably probable skin contact. |
| Respiratory protection: | In case of inadequate ventilation use suitable respirator. High-efficiency particulate respirator with full facepiece. |
| Hygiene measures: | Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing. |

9. Physical and chemical properties

Appearance

| Physical state: | Solid |
|-----------------------|-------|
| Form: | Solid |
| Color: | White |
| Odor: | Odorl |
| SDS_US - SDSMIX000296 | |



| Odor threshold: | No data available. |
|--------------------------------------------|------------------------------------------|
| pH: | 13.5 0.1 N Aqueous solution |
| Melting point/freezing point: | 360 °C |
| Initial boiling point and boiling range: | 1,320 °C |
| Flash Point: | No data available. |
| Evaporation rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Upper/lower limit on flammability or explo | sive limits |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | 0.1 kPa (714 °C) |
| Vapor density: | No data available. |
| Relative density: | 2.04 (20 °C) |
| Solubility(ies) | |
| Solubility in water: | Soluble |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |
| Other information | |
| Molecular weight: | 56.11 g/mol |
| 10. Stability and reactivity | |
| Reactivity: Reacts | violently with strong acids. |
| | n en |

| Chemical stability: | Material is stable under normal conditions. |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Possibility of hazardous reactions: | Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air. |
| Conditions to avoid: | Avoid contact with oxidizing agents. Reacts violently with strong acids. Heat. Moisture. |
| Incompatible materials: | Moisture. Oxidizing agents. Acids. Maleic Anhydride Halogens. Nitromethane. Contact with metals may evolve flammable hydrogen gas. |
| Hazardous decomposition products: | Oxides of potassium. |

11. Toxicological information

| Information on likely rout Ingestion: | es of exposure May cause burns of the gastrointestinal tract if swallowed. |
|------------------------------------------|-------------------------------------------------------------------------------|
| Inhalation: | Causes severe burns. |
| Skin contact: | Causes severe skin burns. |
| Eye contact: | Causes serious eye damage. |



Information on toxicological effects Acute toxicity (list all possible routes of exposure) Oral Product: ATEmix (Rat): 303.3 mg/kg Dermal Product: No data available. Inhalation **Product:** No data available. **Repeated dose toxicity Product:** No data available. Skin corrosion/irritation Product: Causes severe skin burns. Serious eye damage/eye irritation **Product:** Causes serious eye damage. Respiratory or skin sensitization **Product:** Not a skin nor a respiratory sensitizer. Carcinogenicity Product: This substance has no evidence of carcinogenic properties. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: No carcinogenic components identified US. National Toxicology Program (NTP) Report on Carcinogens: No carcinogenic components identified US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): No carcinogenic components identified Germ cell mutagenicity In vitro Product: No mutagenic components identified In vivo **Product:** No mutagenic components identified **Reproductive toxicity** Product: No components toxic to reproduction Specific target organ toxicity - single exposure **Product:** Respiratory tract irritation. Specific target organ toxicity - repeated exposure **Product:** None known. Aspiration hazard **Product:** Not classified Other effects: None known.



12. Ecological information

Ecotoxicity: Acute hazards to the aquatic environment: Fish Product: No data available. Specified substance(s): POTASSIUM LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 80 mg/l Mortality HYDROXIDE Aquatic invertebrates **Product:** No data available. Chronic hazards to the aquatic environment: Fish Product: No data available. Aquatic invertebrates Product: No data available. **Toxicity to Aquatic Plants** Product: No data available. Persistence and degradability **Biodegradation Product:** Expected to be readily biodegradable. **BOD/COD** ratio **Product:** No data available. **Bioaccumulative potential Bioconcentration factor (BCF) Product:** No data available on bioaccumulation. Partition coefficient n-octanol / water (log Kow) Product: No data available. Mobility in soil: The product is water soluble and may spread in water systems. Other adverse effects: Harmful to aquatic organisms. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms. 13. Disposal considerations **Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. **Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.



14. Transport information

| DOT | |
|--------------------------------------------------------|----------------------------|
| UN number: | UN 1813 |
| UN proper shipping name: | Potassium hydroxide, solid |
| Transport hazard class(es) | _ |
| Class(es): | 8 |
| Label(s): | 8 |
| Packing group: | |
| Marine Pollutant: | No |
| IMDG | |
| UN number: | UN 1813 |
| UN proper shipping name: Transport hazard class(es) | POTASSIUM HYDROXIDE, SOLID |
| Class(es): | 8 |
| Label(s): | 8 |
| EmS No.: | F-A, S-B |
| Packing group: | II |
| Marine Pollutant: | No |
| 1474 | |
| IATA UN number: | UN 1813 |
| Proper Shipping Name: | Potassium hydroxide, solid |
| Transport hazard class(es): | Fotassium nyuroxide, soliu |
| Class(es): | 8 |
| Label(s): | 8 |
| Marine Pollutant: | No |
| Packing group: | |
| r doning group. | |

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

| Х | Acute (Immediate) X | Chronic (Delayed) | e Reactive Pressure Generating | | | |
|---|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------|--|--|--|
| | SARA 302 Extremely hazardous substance None present or none present in regulated quantities. SARA 304 Emergency release notification | | | | | |
| | | | | | | |
| | | | | | | |
| | Chemical identity | RQ | | | | |
| | | RQ 1000 lbs. | | | | |
| | Chemical identity POTASSIUM HYDROXIDE | | | | | |



SARA 311/312 Hazardous chemical

| C | Chemical identity | Threshold Planning Quantity |
|---|-------------------|-----------------------------|
| | POTASSIUM | 500 lbs |

| POTASSIUM | | |
|-----------|--|--|
| HYDROXIDE | | |

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3) POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act POTASSIUM HYDROXIDE Listed

US. Massachusetts RTK - Substance List

POTASSIUM Listed HYDROXIDE

US. Pennsylvania RTK - Hazardous Substances POTASSIUM HYDROXIDE Listed

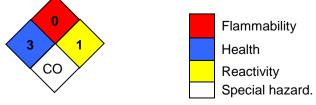
US. Rhode Island RTK POTASSIUM HYDROXIDE Listed

Inventory Status:

Australia AICS: Canada DSL Inventory List: EINECS, ELINCS or NLP: Japan (ENCS) List: China Inv. Existing Chemical Substances: Korea Existing Chemicals Inv. (KECI): Canada NDSL Inventory: Philippines PICCS: US TSCA Inventory: New Zealand Inventory of Chemicals: Japan ISHL Listing: Japan Pharmacopoeia Listing: On or in compliance with the inventory Not in compliance with the inventory. On or in compliance with the inventory Not in compliance with the inventory On or in compliance with the inventory On or in compliance with the inventory On or in compliance with the inventory Not in compliance with the inventory Not in compliance with the inventory. Not in compliance with the inventory. Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe COR: Corrosive



| Issue date: | 07-25-2014 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revision date: | No data available. |
| Version #: | 1.0 |
| Further information: | No data available. |
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