



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/29/2016

Version 2.0

SECTION 1. Identification

Product identifier

| | |
|----------------|---------------------------------------|
| Product number | 804918 |
| Product name | Potassium tert-butyrate for synthesis |
| CAS-No. | 865-47-4 |

Relevant identified uses of the substance or mixture and uses advised against

| | |
|-----------------|------------------------|
| Identified uses | Chemical for synthesis |
|-----------------|------------------------|

Details of the supplier of the safety data sheet

| | |
|---------|--|
| Company | EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) |
|---------|--|

| | |
|---------------------|--|
| Emergency telephone | 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week |
|---------------------|--|

SECTION 2. Hazards identification

GHS Classification

Flammable solid, Category 1, H228
Skin corrosion, Category 1A, H314
Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H228 Flammable solid.
H314 Causes severe skin burns and eye damage.

Precautionary Statements

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P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P260 Do not breathe dusts or mists.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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 or doctor/ physician.

P321 Specific treatment (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Water Reactive

SECTION 3. Composition/information on ingredients

Formula

$(\text{CH}_3)_3\text{COK}$

$\text{C}_4\text{H}_9\text{KO}$ (Hill)

Molar mass

112.21 g/mol

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

potassium tert-butanolate (>= 90 % - <= 100 %)

865-47-4

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

General advice

First aider needs to protect himself.

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

Eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

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Ingestion

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Irritation and corrosion, Cough, Shortness of breath
Risk of blindness!

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Sand, Cement, Dry powder

Unsuitable extinguishing media

Water, Foam

Special hazards arising from the substance or mixture

Combustible.

Risk of dust explosion.

Self-ignition possible due to air moisture.

Development of hazardous combustion gases or vapors possible in the event of fire.

May not get in touch with:

Water

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Remove container from danger zone and cool with water.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Keep workplace dry. Do not allow product to come into contact with water.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal or light-weight-metal containers.

Protective gas: Argon.

Tightly closed. Dry. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Tightly fitting safety goggles

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

Flame retardant antistatic protective clothing.

Respiratory protection

required when dusts are generated.

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SECTION 9. Physical and chemical properties

| | |
|--|--|
| Physical state | powder |
| Color | light yellow |
| Odor | odorless |
| Odor Threshold | Not applicable |
| pH | ca. 13 at 5 g/l 20 °C (20 °C) Hydrolyzsis |
| Melting point | 256 - 258 °C |
| Boiling point | No information available. |
| Flash point | Not applicable |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | The substance or mixture is a flammable solid with the category 1. Flammability (solids) NF T 20-042 |
| Lower explosion limit | No information available. |
| Upper explosion limit | No information available. |
| Vapor pressure | 0.02 hPa at 20 °C (20 °C) Method: OECD Test Guideline 104 |
| Relative vapor density | No information available. |
| Density | 1.19 g/cm ³ at 20 °C (20 °C) Method: OECD Test Guideline 109 |
| Relative density | No information available. |
| Water solubility | at 20 °C (20 °C) Hydrolyzsis, (rigorous decomposition) |
| Partition coefficient: n-octanol/water | Not applicable |

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| | |
|---------------------------|--|
| Autoignition temperature | No information available. |
| Decomposition temperature | 300 °C (300 °C) Method: OECD Test Guideline 113 |
| Viscosity, dynamic | No information available. |
| Explosive properties | Not classified as explosive. |
| Oxidizing properties | none |
| Sublimation point | 220 °C (220 °C) at 1.33 hPa |
| Ignition temperature | 483 °C (483 °C) |
| Bulk density | ca.500 kg/m ³ |

SECTION 10. Stability and reactivity

Reactivity

- Self-ignition possible due to air moisture.
- Risk of dust explosion.
- Reacts violently with water.
- Self-heating in large quantities; may catch fire.

Chemical stability

- ||sensitive to moisture
- ||Sensitive to air.
- Upon decomposition in closed containers and tubes risk of bursting due to buildup of overpressure.

Possibility of hazardous reactions

- Risk of ignition or formation of inflammable gases or vapors with:
Water, Acetone, Alcohols, Chloroform, dichloromethane, acetic acid, ethanol, Esters, Methanol, sulfuric acid, halogens, acids, DIETHYL SULPHATE
- Exothermic reaction with:
Halogenated hydrocarbon

Conditions to avoid

- Moisture.

Incompatible materials

- Light metals, light metal alloys, Metals

Hazardous decomposition products

- no information available

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Potassium tert-butylate for synthesis

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Inhalation, Eye contact, Skin contact, Ingestion

Acute oral toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Corrosive to respiratory system.

Skin irritation

Rabbit

Result: Causes severe burns.

OECD Test Guideline 404

Causes severe burns.

Eye irritation

Causes serious eye damage.

Risk of blindness!

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

Biodegradability

decomposes

Bioaccumulative potential

Partition coefficient: n-octanol/water

Not applicable

Mobility in soil

No information available.

Additional ecological information

Product reacts with water. Harmful effect due to pH shift. Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number

Not permitted for transport

UN 2921

Proper shipping name

CORROSIVE SOLID, FLAMMABLE, N.O.S. Not permitted for transport

Class

8 (4.1)

Air transport (IATA)

UN number

UN 2921

Proper shipping name

CORROSIVE SOLID, FLAMMABLE, N.O.S. (POTASSIUM-TERT-BUTYLATE)

Class

8 (4.1)

Packing group

I

Environmentally hazardous

--

Special precautions for user

no

Sea transport (IMDG)

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UN number

UN 2921

Proper shipping name

CORROSIVE SOLID, FLAMMABLE, N.O.S. (POTASSIUM-TERT-BUTYLATE)

Class

8 (4.1)

Packing group

I

Environmentally hazardous

--

Special precautions for user

yes

EmS

F-A S-G

Segregation Group

0018 Alkalis

SECTION 15. Regulatory information

United States of America

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:

All components of the product are listed in the TSCA-inventory.

DSL:

All components of this product are on the Canadian DSL

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SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H228 Flammable solid.

H314 Causes severe skin burns and eye damage.

EUH014 Reacts violently with water.

Precautionary Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

P370 + P378 In case of fire: Use powder for extinction.

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|--|
| H228 | Flammable solid. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 01/29/2016

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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