

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04
Version: 3.1

Page: 1/7
(30230091/MDS_GEN_US/EN)

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Molecular formula: NaK
Chemical family: metal
Synonyms: Potassium sodium alloy, liquid

2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
7440-23-5	> 21.0 - < 23.0 %	sodium
7440-09-7	> 77.0 - < 79.0 %	potassium

3. Hazard identification

Emergency overview

DANGER: REACTS VIOLENTLY AND EXOTHERMALLY WITH WATER, MOIST AIR, ACIDS, OR ALCOHOLS LIBERATING FLAMMABLE HYDROGEN GAS WHICH CAN IGNITE EXPLOSIVELY. EXTREMELY FLAMMABLE. CATCHES FIRE IF EXPOSED TO AIR.

CORROSIVE LIQUID.

CAUSES SEVERE BURNS.

SEVERELY CORROSIVE TO SKIN, EYES AND RESPIRATORY SYSTEM.

RISK OF SERIOUS DAMAGE TO EYES.

Avoid all sources of ignition: heat, sparks, open flame.

Store in a cool (below 75 degrees F, preferably below 70 degrees F), dry area.

Keep container tightly closed.

Keep under nitrogen.

Ground conductive equipment properly to prevent electrostatic discharge.

Eye wash fountains and safety showers must be easily accessible.

Do not get in eyes, on skin, or on clothing.

Wear suitable protective clothing, gloves and eye/face protection.

Wash thoroughly after handling.

Do not breathe vapours/mists.

Wear self-contained breathing apparatus.

Ensure adequate ventilation.

Potential health effects

Primary routes of exposure

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Version: 3.1

Page: 2/7

(30230091/MDS_GEN_US/EN)

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

The toxicity of the product is based on its corrosivity.

Irritation:

Causes severe burns. Risk of serious damage to eyes. Corrosive to the skin, eyes and respiratory system.

Medical conditions aggravated by overexposure:

Individuals with pre-existing diseases of the respiratory, skin or eyes may have increased susceptibility to excessive exposures.

See MSDS section 11 - Toxicological information.

4. First-aid measures

General advice:

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing. Immediate medical attention required. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary.

If inhaled:

Keep patient calm, remove to fresh air. Immediate medical attention required. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

After contact with skin, wash immediately with plenty of water. Immediate medical attention required.

If in eyes:

Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

5. Fire-fighting measures

Autoignition:	approx. 120 °C
Flammability:	Contact with water liberates highly flammable gases.
Self-ignition temperature:	self-igniting

Suitable extinguishing media:

dry soda ash, dry sodium chloride, Dry sand, Dry Powder for Class D

Unsuitable extinguishing media for safety reasons:

water, dry extinguishing media, carbon dioxide, foam, chlorinated hydrocarbons

Hazards during fire-fighting:

hydrogen, Potassium hydroxide, Potassium superoxide (K₂O₂), Sodium Hydroxide, The substances/groups of substances mentioned can be released in case of fire. Contact with water releases highly flammable and/or corrosive gases/vapours. Spontaneously flammable in air.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Version: 3.1

Page: 3/7

(30230091/MDS_GEN_US/EN)

Further information:

Keep people away and stay on the upwind side. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Sealed containers should be protected against heat as this results in pressure build-up.

NFPA Hazard codes:

Health : 3 Fire: 3 Reactivity: 2 Special: NW

6. Accidental release measures

Personal precautions:

Do not get in eyes, on skin, or on clothing. Sources of ignition should be kept well clear. Wear a NIOSH-certified self-contained breathing apparatus or full face supplied air respirator. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not empty into drains. Discharge into the environment must be avoided. For the EHS reportable quantity see section 15 (Reportable Quantities). This product is regulated by RCRA.

Cleanup:

For small amounts: Protect from water. Cover with anhydrous sodium carbonate, sodium chloride or dry sand. Pick up in dry form. Place into suitable container for disposal. Correctly dispose of recovered product immediately.

For large amounts: Protect from water. Cover with anhydrous sodium carbonate, sodium chloride or dry sand. Pick up in dry form. Place into suitable container for disposal. Correctly dispose of recovered product immediately.

Further information:

Reacts violently with water, liberating extremely flammable gases. Release of substance/product can cause fire or explosion.

7. Handling and storage

Handling

General advice:

Do not get in eyes, on skin, or on clothing. Wear suitable protective clothing and eye/face protection. Protect against moisture. Keep tools dry and clean. Keep away from sources of ignition - No smoking. Handle under dry inert gas. Protect from air. If the presence of potassium superoxide is suspected do not add any organic compound.

Protection against fire and explosion:

Substance/product is flammable. Sealed containers should be protected against heat as this results in pressure build-up. Use antistatic tools. Containers should be grounded against electrostatic charge.

Storage

General advice:

Keep container tightly closed and dry; store in a cool place. Blanket partially filled container with dry nitrogen.

Storage incompatibility:

General: Keep away from water. Segregate from oxidants. Segregate from acids. Segregate from alcohols. Segregate from organic substances.

Specific: carbon dioxide, Ethene, tetrafluoro-,

Storage stability:

Keep under dry nitrogen. Improper storage may result in pressure build up in the drums.

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Version: 3.1

Page: 4/7

(30230091/MDS_GEN_US/EN)

8. Exposure controls and personal protection

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Wear a NIOSH-certified self-contained breathing apparatus or full face supplied air respirator. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Leather gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit., Protective clothing should be flame resistant.

General safety and hygiene measures:

Do not get in eyes, on skin, or on clothing. Wear protective clothing as necessary to prevent contact. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

9. Physical and chemical properties

Form:	liquid	
Odour:	odourless	
Colour:	silver with metallic luster	
Melting point:	-11 °C	
Boiling point:	785 °C	
Density:	0.855 g/cm ³	(100 °C)
Viscosity, dynamic:	0.505 mPa.s	(100 °C)
Solubility in water:		Reacts with water., spontaneous decomposition

10. Stability and reactivity

Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid contact with air. Avoid humidity. Avoid direct contact with water.

Substances to avoid:

carbon dioxide, water, oxidizing agent, reducing agents, peroxides, bases, reactive inorganic halogens and halides, halogenated hydrocarbons, Teflon, metal oxide

Hazardous reactions:

Strong exothermic reaction. May evolve hydrogen gas. Risk of spontaneous ignition when exposed to air. If the presence of potassium superoxide is suspected do not add any organic compound.

Decomposition products:

hydrogen, Potassium hydroxide, Potassium superoxide (K(O₂)), Sodium Hydroxide

11. Toxicological information

Chronic toxicity

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Version: 3.1

Page: 5/7

(30230091/MDS_GEN_US/EN)

Other information:

The toxicity of the product is based on its corrosivity.

The product has a strong caustic effect on skin, eyes and mucous membranes.

The product may cause irreversible damage to eyes.

12. Ecological information

Environmental fate and transport

Biodegradation:

Evaluation: Inorganic product which cannot be eliminated from water by biological purification processes.

Environmental toxicity

Information on: Potassium hydroxide

Acute and prolonged toxicity to fish:

other static

Rainbow trout/LC50 (96 h): 45.4 mg/l

The product has not been tested. The statement has been derived from products of a similar structure and composition. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Analogous: Assessment derived from products with similar chemical character.

Information on: Sodium Hydroxide

Acute and prolonged toxicity to fish:

other static

Rainbow trout/LC50 (96 h): 45.4 mg/l

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Information on: Potassium hydroxide

Acute toxicity to aquatic invertebrates:

other static

Ceriodaphnia dubia/EC50 (48 h): 40.4 mg/l

The product has not been tested. The statement has been derived from products of a similar structure and composition. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Information on: Sodium Hydroxide

Acute toxicity to aquatic invertebrates:

other static

Ceriodaphnia sp./EC50 (48 h): 40.4 mg/l

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Other ecotoxicological advice:

The product should not be allowed to reach either ground or open waters. The product should not be allowed to reach either sewage waters or water purification plants.

Information on: sodium hydroxide

Other ecotoxicological advice:

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants. After neutralization only the relatively minor harmful effect of the resulting salts remains.

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Version: 3.1

Page: 6/7

(30230091/MDS_GEN_US/EN)

13. Disposal considerations

Waste disposal of substance:

Return to manufacturer.

Observe all local regulations.

Do not discharge into drains/surface waters/groundwater.

Empty contaminated containers/packaging must be handled according to applicable regulations for the hazardous properties of the contaminating material.

Container disposal:

CYLINDERS:

Keep under nitrogen pressure and return to supplier as soon as possible. Always seal cylinder valves for return. If cylinder is damaged, please contact supplier. WARNING: Empty containers may still contain hazardous residue.

14. Transport information

Land transport

USDOT

Proper shipping name: POTASSIUM SODIUM ALLOYS, LIQUID
Hazard class: 4.3
ID number: UN 1422
Packing group: I

Sea transport

IMDG

Proper shipping name: POTASSIUM SODIUM ALLOYS, LIQUID
Hazard class: 4.3
ID number: UN 1422
Packing group: I
Marine pollutant: NO

Air transport

IATA/ICAO

Proper shipping name: POTASSIUM SODIUM ALLOYS, LIQUID
Hazard class: 4.3
ID number: UN 1422
Packing group: I

15. Regulatory information

Federal Regulations

Registration status:

TSCA, US released / listed

OSHA hazard category:
target organ effects reported

Water Reactive, Corrosive to skin and/or eyes, Flammable Solid, Acute

Safety data sheet

Sodium Potassium Alloy

Revision date : 2006/10/04

Page: 7/7

Version: 3.1

(30230091/MDS_GEN_US/EN)

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
10 LBS	7440-23-5	sodium

SARA hazard categories (EPCRA 311/312): Reactivity, Fire, Acute

State regulations

State RTK

<u>CAS Number</u>	<u>Chemical name</u>	<u>State RTK</u>
7440-23-5	sodium	MA, NJ, PA
7440-09-7	potassium	MA, NJ, PA

16. Other information

Recommended use: for industrial use only

Local contact information

Beverly Jones
+1 724-538-1280

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET