

SODIUM POTASSIUM ALLOY (NAK)

1. OTHER NAMES

- a. Potassium-Sodium Alloy
- b. Nak

2. CAS NO.

- a. (11135-81-2) for Nak
- b. (7440-23-5) for Na
- c. (7440-09-7) for K

3. COMPOSITION

Sodium and Potassium are miscible in all proportions giving a mobile silvery liquid. The phase diagram shows that Nak alloy in the concentration of 40-90 wt% of K remains liquid at room temperature.

4. SPECIFICATIONS

SPECIFICATIONS	NAK - 87	NAK – 78
Appearance	Silvery white free flowing liquid	Silvery white free flowing liquid
K (wt%)	87 ± 1	78 ± 1
Na (wt%)	13 ± 0.5	22 ± 0.5

5. STABILITY

Nak reacts violently with water to form hydrogen, potassium hydroxide, sodium hydroxide.

6. PACKAGING

- a. 0.5 kg. Nak in cylinder
- b. 90 kgs. Nak in DOT approved cylinder
- c. 340 kgs. Nak in DOT approved cylinder

7. SHIPPING INFORMATION

- a. Un-1442, PG 1
- b. Corrosive flammable liquid

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8. APPLICATIONS

Nak alloys are ideal for chemical reactions involving unstable intermediates. It is used to manufacture ISO BUTYL BENZENE, ALPHA OLEFINS, EPDM RUBBER AND PEN PLASTICS. It is ideal for use as heat exchange fluids.

9. REACTIVITY

Provides more reactive surface area than either potassium or sodium alone.

Reactions can be carried out at much lower temperature (-12°C).

Suitable for chemical reactions involving unstable intermediates such as carbanions and free radicals. Can be easily dispersed on any inert support.

SUCCESSFULLY USED IN:

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| I | Side chain alkylation of aromatics |
| II | Isomerization of alpha olefins |
| III | Free radical and condensation polymerization |
| IV | Reduction of various inorganic and organic compounds |
| V | Impurity scavenging of acetylenic and allenic contaminants |
| VI | Cleavage of functional groups like C - X, C - O and O - S bonds |

10. PRODUCT PROPERTIES

- a. High purity
- b. High reactivity
- c. Available in liquid form
- d. Cost effective
- e. Non-corrosive to metals

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