THE SHEPHERD CHEMICAL COMPANY
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PRODUCT STEWARDSHIP SUMMARY

Nickel nitrate solutions

1. Chemical identity

- Nickel nitrate, C.A.S. No. 13138-45-9, Chemical formula $Ni(NO_3)_2$
- Water, C.A.S. No. 7732-18-5, Chemical formula H_2O
- Nitric Acid, C.A.S. No. 7697-37-2, Chemical formula HNO_3

2. Uses and Applications

Nickel nitrate solutions have many applications in industry. They are used in battery manufacturing, metal plating, petroleum refinery treatment, and as catalysts for chemical manufacturing.

3. Physical / Chemical Properties

Nickel nitrate solutions are green transparent liquids with a slight odor of nitric acid. They are normally stable. Nickel nitrate solutions are corrosive and may produce oxides of nitrogen upon thermal decomposition.

4. Globally Harmonized System (GHS) Classifications

Danger. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. May cause cancer by inhalation. May cause cancer. May damage the unborn child. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

5. Exposure

Exposure to nickel nitrate solutions may occur in industrial applications where engineering controls have failed or are not in place. Exposure can also result when safe work procedures are not followed, or workers do not use personal protective equipment. Exposure to nickel nitrate solutions may occur during environmental releases if response operations are not conducted properly or in a timely manner.

6. Risk Management

Engineering controls such as exhaust ventilation, dedicated closed systems, leak detection, welded joints, and properly designed storage equipment are recommended to minimize the risk of exposure

to nickel nitrate solutions. Safe work practices and worker training on the handling of corrosive liquids is also recommended. Personal protective equipment such as safety glasses, impervious gloves, respirators, and work uniforms are necessary to prevent worker exposure. In the event of an environmental release of nickel nitrate solutions, emergency personnel should follow appropriate emergency response guidelines for corrosive liquids and wear adequate protective equipment to minimize exposure during response operations.

7. Additional Information

- The Shepherd Chemical Company Material Safety Data Sheets, *www.shepchem.com*
- Hazardous Substance Data Bank (HSDB), *http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB*

8. Contact Information

For more information, call (513) 458-6847 or email *bpelsor@shepchem.com*