OM SHREE GANESHYA NAMAH



CHAITANYA CHS, 2nd FLOOR, OFFICE # 206, SIDDHARTH NAGAR, S.V.ROAD, GOREGAON (W), MUMBAł 400062, MH, INDIA. CONTACT: +9122 28725393 /94/ 95 | EMAILID: CARE@SUVCHEM.COM

MATERIAL SAFETY DATA SHEET (MSDS)

NICKEL NITRATE LR (HEXAHYDRATE)

| 1. Identification of the substance/mixture and of the company/undertaking | | | |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 1.1. Product identifier | | | |
| Trade name | : NICKEL NITRATE LR (HEXAHYDRATE) | | |
| Product code | : N0144205000 | | |
| Identification of the product | : NICKEL NITRATE EXTRA PURE (HEXAHYDRATE) 98% CAS No: 13478-00-7 | | |
| 1.2. Relevant identified uses of the substance or mixture and uses advised against | | | |
| Use | : Industrial. For professional use only. | | |
| 1.3. Details of the supplier of the safety data sheet | | | |
| Company identification <u>1.4. Emergency telephone numbe</u> | SUVCHEM Chaitanya Tower, 2nd Floor, Office # 206, Siddharth Nagar, S.V. Road, Goregaon (West), Mumbai - 400062, Maharashtra, India. Contact: +91 22 28725393 / 94 / 95 Email ID: info@suvchem.com/care@suvchem.com | | |
| Phone no. | : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours] | | |

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification

: T; R48/23 Xn; R20/22 Xi; R38-41 Xn ; R42/43 N; R50-53

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards: Acute toxicity, Oral - Category 4 - Warning (CLP : Acute Tox. 4) H302
Acute toxicity, Inhalation - Category 4 - Warning (CLP : Acute Tox. 4) H332Environmental hazards: Hazardous to the aquatic environment - Acute hazard - Category 1 - Warning (CLP
: Aquatic Acute 1) H400

2.2. Label elements

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MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

2. Hazards identification -DSD (continued)

Labelling EC 67/548 or EC 1999/45

Symbol(s)



| Symbol(s) | : O : Oxidizing T : Toxic |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R Phrase(s) | : R49 : May cause cancer by inhalation. R61 : May cause harm to the unborn child. |
| S Phrase(s) | R20/22 : Harmful by inhalation and if swallowed. R38 : Irritating to skin. R41 : Risk of serious damage to eyes. R42/43 : May cause sensitization by inhalation and skin contact. R48/23 : Toxic : danger of serious damage to health by prolonged exposure through inhalation. R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R68 : Possible risks of irreversible effects. : S53 : Avoid exposure - obtain special instructions before use. S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible). S60 : This material and its container must be disposed of as hazardous waste. S61 : Avoid release to the environment. Refer to special instructions/Safety data |
| | sheets. |

Labelling Regulation EC 1272/2008 (CLP)

| Hazard pictograms | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal words | : Warning |
| Hazard statements | : H302 : Harmful if swallowed. H332 : Harmful if inhaled. H400 : Very toxic to aquatic life. |
| Precautionary statements | |
| Prevention | P271: Use only outdoors or in a well-ventilated area. P261: Avoid breathing dust, fume, gas, mist, vapours, spray. P273: Avoid release to the environment. P264: Wash thoroughly after handling. P270: Do not eat, drink or smoke when using this product. |
| • Response | P301+P312: IF SWALLOWED : Call a POISON CENTER or doctor if you feel unwell. P391: Collect spillage. P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position |

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MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

| 2. Hazards identification -DSD (continued) | | |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | comfortable for breathing. | |
| Disposal considerations | : P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. | |
| 2.3. Other hazards | | |
| Other hazards | : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH. | |

| 3. Composition/information on ingredients | | |
|-------------------------------------------|-----------------------------------------------|--|
| Substance / Preparation | : NICKEL NITRATE EXTRA PURE (HEXAHYDRATE) 98% | |
| | Substance. | |

Contains no other components or impurities which will influence the classification of the product.

| 4. | First | aid | measures |
|----|--------------|-----|----------|
|----|--------------|-----|----------|

. ..

| 4.1. Description of first aid measures | | |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Inhalation | : Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. | |
| Skin contact | : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. | |
| Eye contact | : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. | |
| Ingestion | : Obtain emergency medical attention. Call a POISON CENTER or doctor if you feel unwell. Do NOT induce vomiting. Rinse mouth. | |
| 4.2. Most important symptoms and effects, both acute and delayed | | |
| Symptoms relating to use | : Danger of serious damage to health by prolonged exposure through inhalation. Swallowing a small quantity of this material will result in serious health hazard. | |
| 4.3. Indication of any immediate medical attention and special treatment needed | | |
| General information | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). | |



MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

5. Fire-fighting measures

| 5.1. Extinguishing media | | |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Suitable extinguishing media Unsuitable extinguishing media Surrounding fires | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. : Do not use a heavy water stream. : Use water spray or fog for cooling exposed containers. | |
| 5.2. Special hazards arising from the substance or mixture | | |
| Hazardous combustion products | : Under fire conditions, hazardous fumes will be present. | |
| 5.3. Advice for fire-fighters | | |
| Protection against fire | : Do not enter fire area without proper protective equipment, including respiratory protection. | |
| Special procedures | : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment. | |

| 6.1. Personal precautions, protective equipment and emergency procedures | | |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|
| For emergency responders | : Equip cleanup crew with proper protection. Ventilate area. | |
| For non-emergency personnel | : Evacuate unnecessary personnel. | |
| 6.2. Environmental precautions | | |
| Environmental precautions | : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Avoid release to the environment. | |
| 6.3. Methods and material for containment and cleaning up | | |
| Clean up methods | : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials. | |
| 6.4. Reference to other sections | | |

See section 8. Exposure controls/personal protection

7. Handling and storage

7.1. Precautions for safe handling



MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

| 7. Handling and storage (continued) | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Handling | : Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapours, spray. Do not eat, drink or smoke when using this product. | | |
| Technical protective measures | : Provide good ventilation in process area to prevent formation of vapour. | | |
| 7.2. Conditions for safe storage, including any incompatibilities | | | |
| Storage | : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. | | |
| Storage - away from | : Strong bases. Strong acids. Sources of ignition. Direct sunlight. | | |
| 7.3. Specific end use(s) | | | |
| Specific end use(s) | : None. | | |
| | | | |
| 8. Exposure controls/personal protection | | | |
| 8. Exposure controls/personal prote | ction | | |
| 8. Exposure controls/personal prote 8.1. Exposure controls | ection | | |
| | : Avoid all unnecessary exposure. | | |
| 8.1. Exposure controls | | | |
| 8.1. Exposure controls Personal protection | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. | | |
| 8.1. Exposure controls Personal protection • Respiratory protection | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. : Chemical goggles or safety glasses. | | |
| 8.1. Exposure controls Personal protection • Respiratory protection • Hand protection | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. | | |
| 8.1. Exposure controls Personal protection • Respiratory protection • Hand protection • Eye protection | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. : Chemical goggles or safety glasses. | | |
| 8.1. Exposure controls Personal protection • Respiratory protection • Hand protection • Eye protection • Others | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. : Chemical goggles or safety glasses. | | |
| 8.1. Exposure controls Personal protection • Respiratory protection • Hand protection • Eye protection • Others 8.2. Control parameters | : Avoid all unnecessary exposure. : In case of insufficient ventilation, wear suitable respiratory equipment. : Wear protective gloves. : Chemical goggles or safety glasses. : When using, do not eat, drink or smoke. | | |

9.1. Information on basic physical and chemical properties

| Physical state at 20 °C | : Solid. |
|---------------------------|----------------------|
| Colour | : Green crystals |
| Odour | : Odorless |
| Odour threshold | : No data available. |
| pH value | : Not applicable. |
| Melting point [°C] | : 56 °C |
| Decomposition point [°C] | : N/A |
| Critical temperature [°C] | : N/A |
| | |



MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

9. Physical and chemical properties (continued)

| Auto-ignition temperature [°C] | : N/A |
|------------------------------------|------------------------|
| Flammability (solid, gas) | : N/A |
| Flash point [°C] | : N/A |
| Boiling point [°C] | : 1370C |
| Initial boiling point [°C] | : N/A |
| Final boiling point [°C] | : N/A |
| Evaporation rate | : N/A |
| Vapour pressure [20°C] | : N/A |
| Vapour pressure mm/Hg | : N/A |
| Vapour density | : N/A |
| Density [g/cm3] | : 2,05 |
| Relative density, gas (air=1) | : N/A |
| Relative density, liquid (water=1) | : N/A |
| Solubility in water [% weight] | : 238.5g/100cc water @ |
| Solubility in water | : N/A |
| Log Pow octanol / water at 20°C | : No data available. |
| Solubility | : 3.5 - 5.5 |
| Viscosity at 40°C [mm2/s] | : N/A |
| | |
| 9.2. Other information | |
| Explosive properties | : N/A |
| Explosion limits - upper [%] | : N/A |
| Explosion limits - lower [%] | : N/A |
| Oxidising properties | : No data available. |
| | |

10. Stability and reactivity

| <u>10.1. Reactivity</u> | |
|------------------------------------------|------------------------------------------------|
| Reactivity | : Not established. |
| 10.2. Chemical stability | |
| Chemical stability | : Stable under recommended storage conditions. |
| 10.3. Possibility of hazardous reactions | |
| Hazardous reactions | : Not established. |
| 10.4. Conditions to avoid | |



MATERIAL SAFETY DATA SHEET (MSDS)

NICKEL NITRATE LR (HEXAHYDRATE)

| 0. Stability and reactivity (continued) | |
|-----------------------------------------|---------------------------------------------------------------------|
| Conditions to avoid | : Direct sunlight. Extremely high or low temperatures. |
| 10.5. Incompatible materials | |
| Materials to avoid | : Strong acids. Strong bases. |
| 10.6. Hazardous decomposition products | |
| Hazardous decomposition products | : Fumes. Carbon monoxide. Carbon dioxide. |
| 11.1. Information on toxicological effe | <u>ects</u> |
| Acute toxicity | |
| Inhalation | : Harmful if inhaled. |
| • Dermal | : Based on available data, the classification criteria are not met. |
| Ingestion | : Harmful if swallowed. |
| Corrosion | : Based on available data, the classification criteria are not met. |
| Irritation | · Read on available data, the electricitien criteria are not mot |
| | : Based on available data, the classification criteria are not met. |
| Sensitization | : Based on available data, the classification criteria are not met. |
| Sensitization Mutagenicity | |

| widtagementy | |
|------------------------|---------------------------------------------------------------------|
| Carcinogenicity | : Based on available data, the classification criteria are not met. |
| Toxic for reproduction | : Based on available data, the classification criteria are not met. |
| STOT-single exposure | : Based on available data, the classification criteria are not met. |
| STOT-repeated exposure | : Based on available data, the classification criteria are not met. |
| Aspiration hazard | : Based on available data, the classification criteria are not met. |

12. Ecological information

| <u>12.1. Toxicity</u> | |
|-------------------------------------------|-------------------------------|
| Toxicity information | : Very toxic to aquatic life. |
| <u> 12.2. Persistence - degradability</u> | |
| Persistence - degradability | : Biodegradable. |
| 12.3. Bioaccumulative potential | |
| Bioaccumulative potential | : Not established. |
| | |



MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

| 12. Ecological information (continued) | | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <u>12.4. Mobility in soil</u> | | |
| Mobility in soil | : Not established. | |
| 12.5. Results of PBT and vPvB assessment | | |
| Results of PBT and vPvB assessment | : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH. | |
| 12.6. Other adverse effects | | |
| Environmental precautions | : Avoid release to the environment. | |
| 13. Disposal considerations | | |
| 13.1. Waste treatment methods | | |
| General | Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. | |

14. Transport information

14.1. Land transport (ADR-RID)

| Proper shipping name UN N° H.I. nr ADR - Class Labelling - Transport | NICKEL NITRATE 2725 50 5.1 5.1 : Oxidizing substances. |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| ADR - Classification code | : O2 O2 |
| ADR - Group | : 111 |
| ADR - Packing instructions | : P002 R001 LP002 |
| ADR - Limited Quantity | : 5 KG |
| ADR - Tunnel code | : E : Passage forbidden through tunnels of category E. |

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MATERIAL SAFETY DATA SHEET (MSDS) NICKEL NITRATE LR (HEXAHYDRATE)

14. Transport information (continued)



14.2. Sea transport (IMDG) [English only]

| Proper shipping name | : NICKEL NITRATE |
|----------------------------------|-------------------------------|
| UN N° | : 2725 |
| IMO-IMDG - Class or division | : 5.1 : Oxidizing substances. |
| IMO-IMDG - Packing group | : 111 |
| IMO- IMDG - Packing instructions | : P002 LP02 |
| IMO-IMDG - Limited quantities | : 5 kg |
| IMO-IMDG - Marine pollution | : Yes |
| EMS-Nr | : F-A S-Q |

14.3. Air transport (ICAO-IATA) [English only]

| Proper shipping name | : NICKEL NITRATE |
|-----------------------------------------------------|-------------------------------|
| UN N° | : 2725 |
| IATA - Class or division | : 5.1 : Oxidizing substances. |
| IATA - Packing group | : 111 |
| IATA - Passenger and Cargo Aircraft | : ALLOWED |
| - Passenger and Cargo - Packing instruction | : 559 |
| - Passenger and Cargo - Maximum Quantity/Packing | : 25 kg |
| IATA - Cargo only | : ALLOWED |
| - Cargo only - Packing instruction | : 563 |
| - Cargo only - Maximum Quantity/ Packing | : 100 kg |
| IATA - Limited Quantites | : 10 kg |
| ERG-Nr | : 5L |

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Safety, health and environmental : Ensure all national/local regulations are observed. regulations/legislation specific for the substance or mixture



MATERIAL SAFETY DATA SHEET (MSDS)

NICKEL NITRATE LR (HEXAHYDRATE)

In accordance with REACH Regulation (CE) Nº 1907/2006 and with CLP Regulation (CE) Nº 1272/2008

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 the material by a properly trained person using this product.

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