1. IDENTIFICATION

Product identifier
Product Name 771 NICKEL ANTI-SEIZE LUBRICANT 8OZ BT

Other means of identification
Product Code 77124
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Lubricant
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address ITW Permatex
10 Columbus Blvd. Hartford, CT 06106 USA

Distributor ITW Permatex Canada
35 Brownridge Road, Unit 1 Halton Hills, ON Canada L7G 0C6

Company Phone Number 1-87-Permatex (877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924 International Emergency:
00+1+ 813-248-0585 Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Skin sensitization</th>
<th>Carcinogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Label elements

<table>
<thead>
<tr>
<th>Emergency Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
</tr>
<tr>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>Suspected of causing cancer</td>
</tr>
</tbody>
</table>
Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Avoid breathing mists or vapors
Wear protective gloves
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Toxic to aquatic life with long lasting effects. The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I. No. Respirable dust.

Unknown acute toxicity

34.5% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY NAPHTHENC</td>
<td>64741-96-4</td>
<td>30 - 60</td>
<td>*</td>
</tr>
<tr>
<td>GRAPHITE</td>
<td>7782-42-5</td>
<td>10 - 30</td>
<td>*</td>
</tr>
<tr>
<td>NICKEL</td>
<td>7440-02-0</td>
<td>5 - 10</td>
<td>*</td>
</tr>
<tr>
<td>ALUMINIUM POWDER</td>
<td>7429-90-5</td>
<td>1 - 5</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures
General advice

Get medical advice/attention if you feel unwell.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact

IF ON SKIN: Wash with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion

IF SWALLOWED: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media

Water.

Specific hazards arising from the chemical

None in particular.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.
Methods for cleaning up

Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Store locked up.

Incompatible materials

Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAPHITE 7782-42-5</td>
<td>TWA: 2 mg/m³ respirable fraction all forms except graphite fibers</td>
<td>TWA: 15 mg/m³ total dust synthetic (vacated) TWA: 2.5 mg/m³ respirable fraction synthetic (vacated) TWA: 5 mg/m³ respirable dust natural TWA: 10 mg/m³ total dust synthetic (vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural</td>
<td>TWA: 2.5 mg/m³ natural respirable dust</td>
</tr>
<tr>
<td>NICKEL 7440-02-0</td>
<td>TWA: 1.5 mg/m³ inhalable fraction</td>
<td>TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³</td>
<td>IDLH: 10 mg/m³ Ni TWA: 0.015 mg/m³ except Nickel carbonyl Ni</td>
</tr>
<tr>
<td>ALUMINIUM POWDER 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al Aluminum</td>
<td>TWA: 5 mg/m³ Al</td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective gloves and protective clothing.

Respiratory protection
Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.
General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Paste</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Silver</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Petroleum odor</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 204 °C / &gt; 400 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&lt; 1</td>
<td>Butyl acetate = 1</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>1.12</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Softening point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat.
Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides
Metal oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: May cause irritation of respiratory tract.
Eye contact: Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact: May cause skin irritation and/or dermatitis. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion: Ingestion may cause irritation to mucous membranes.

<table>
<thead>
<tr>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL</td>
</tr>
<tr>
<td>7440-02-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 9000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: May cause sensitization by skin contact.
Germ cell mutagenicity: No information available.
Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTILLATES</td>
</tr>
<tr>
<td>(PETROLEUM),</td>
</tr>
<tr>
<td>SOLVENT-REFINED</td>
</tr>
<tr>
<td>HEAVY NAPHTHENIC</td>
</tr>
<tr>
<td>64741-96-4</td>
</tr>
<tr>
<td>NICKEL</td>
</tr>
<tr>
<td>7440-02-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>Group 1</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>-</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects: Central Vascular System (CVS), Lungs, Nasal Cavities, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document.
ATEmix (oral): 73761 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

37% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algae/aquatic plants</td>
</tr>
<tr>
<td>Fish</td>
</tr>
<tr>
<td>Crustacea</td>
</tr>
</tbody>
</table>
DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY NAPHTHENIC 64741-96-4

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Persistence and degradability</th>
<th>Bioaccumulation</th>
<th>Mobility</th>
<th>Other adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL 7440-02-0</td>
<td>No information available.</td>
<td>No information available.</td>
<td>No information available.</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**
Do not reuse container.

**US EPA Waste Number**
Not applicable

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL 7440-02-0</td>
<td>-</td>
<td>Included in waste streams: F006, F039</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL 7440-02-0</td>
<td>Toxic powder Ignitable powder</td>
</tr>
<tr>
<td>ALUMINIUM POWDER 7429-90-5</td>
<td>Ignitable powder</td>
</tr>
</tbody>
</table>

**14. TRANSPORT INFORMATION**

**DOT**
Proper shipping name: Not regulated

**IATA**
Proper shipping name: Not regulated

**IMDG**
Proper shipping name: Not regulated

**15. REGULATORY INFORMATION**

International Inventories
TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Not Listed. Contains: Natural substance(s)
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

**Legend:**
- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL - 7440-02-0</td>
<td>0.1</td>
</tr>
<tr>
<td>ALUMINIUM POWDER - 7429-90-5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**
- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**CWA (Clean Water Act)**
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL - 7440-02-0</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL - 7440-02-0</td>
<td>100 lb</td>
<td>-</td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
</tbody>
</table>

**US State Regulations**

**California Proposition 65**
This product contains the following Proposition 65 chemicals

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICKEL - 7440-02-0</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|-------------|
GRAPHITE
7782-42-5
X X X

NICKEL
7440-02-0
X X X

ALUMINIUM POWDER
7429-90-5
X X X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

NFPA
Health hazards 2 Flammability 1 Instability 0 -
HMIS
Health hazards 2 Flammability 1 Physical hazards 0 Personal protection B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 12-Dec-2014

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet