1. Identification

Product Name: Raney Nickel®, activated catalyst, 50% slurry in water
Cat No.: AC395920000; AC395921000; AC395925000
Synonyms: Catalyst for hydrogenation.
Recommended Use: Laboratory chemicals.
Uses advised against: Food, drug, pesticide or biocidal product use.

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

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

Substances/mixtures which, in contact with water, emit flammable gases
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Skin Sensitization
Carcinogenicity
Specific target organ toxicity (single exposure)
Target Organs - Respiratory system, Central nervous system (CNS).
Specific target organ toxicity - (repeated exposure)
Target Organs - Lungs.

Label Elements
Signal Word: Danger

Hazard Statements
In contact with water releases flammable gas
Causes skin irritation
Causes eye irritation
May cause an allergic skin reaction
May cause cancer
May cause respiratory irritation. May cause drowsiness and dizziness
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Handle under inert gas. Protect from moisture
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
Take off contaminated clothing and wash before reuse
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Eyes
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
Fire
Evacuate area
Use CO2, dry chemical, or foam
Storage
Store locked up
Store in a dry place
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Toxic to aquatic life with long lasting effects
WARNING. Cancer - https://www.p65warnings.ca.gov/

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>47-53</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>46-49</td>
</tr>
<tr>
<td>Aluminium</td>
<td>7429-90-5</td>
<td>1-4</td>
</tr>
</tbody>
</table>
4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Get medical attention. Wash off immediately with plenty of water for at least 15 minutes.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

Ingestion
Do NOT induce vomiting. Get medical attention.

Most important symptoms and effects
May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Water spray. Carbon dioxide (CO₂). Dry chemical. Water mist may be used to cool closed containers. Chemical foam.

Unsuitable Extinguishing Media
No information available

Flash Point
No information available

Method -
No information available

Autoignition Temperature
No information available

Explosion Limits
Upper
No data available

Lower
No data available

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Self-heating; exposure to air may cause substance to self-heat without an energy supply. This material poses an explosion hazard when dry.

Hazardous Combustion Products
Burning produces obnoxious and toxic fumes.

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.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>W</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions
Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not flush into surface water or sanitary sewer system.
7. Handling and storage

Handling
Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Handle product only in closed system or provide appropriate exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Minimize dust generation and accumulation. Wear personal protective equipment/face protection.

Storage
Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area. Material can explode if dry. Keep at temperatures below 40°C. Do not freeze.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>TWA: 1.5 mg/m³</td>
<td>(Vacated) TWA: 1 mg/m³, TWA: 1 mg/m³</td>
<td>IDLH: 10 mg/m³, TWA: 0.015 mg/m³</td>
<td>TWA: 1.5 mg/m³</td>
</tr>
<tr>
<td>Aluminium</td>
<td>TWA: 1 mg/m³</td>
<td>(Vacated) TWA: 15 mg/m³, TWA: 5 mg/m³, TWA: 15 mg/m³, TWA: 5 mg/m³</td>
<td>TWA: 10 mg/m³ TWA: 5 mg/m³</td>
<td>TWA: 1 mg/m³, TWA: 5 mg/m³</td>
</tr>
</tbody>
</table>

Legend
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures
Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment
Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Slurry Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Dark grey</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>10-11, 1500 g/L aq.sol</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Raney Nickel®, activated catalyst, 50% slurry in water

Upper
Lower
Vapor Pressure
Vapor Density
Specific Gravity
Solubility
Partition coefficient; n-octanol/water
Autoignition Temperature
Decomposition Temperature
Viscosity
Molecular Formula
Molecular Weight

**10. Stability and reactivity**

**Reactive Hazard**

Yes

**Stability**

Stable. Do not allow evaporation to dryness. This material poses an explosion hazard when dry.

**Conditions to Avoid**

Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Incompatible products.

**Incompatible Materials**


**Hazardous Decomposition Products**

Burning produces obnoxious and toxic fumes

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Hazardous Reactions**

None under normal processing.

**11. Toxicological information**

**Acute Toxicity**

**Product Information**

**Oral LD50**

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Dermal LD50**

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Vapor LC50**

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>-</td>
<td>Not listed</td>
<td>LC50 &gt; 10.2 mg/L ( Rat ) 1 h</td>
</tr>
<tr>
<td>Nickel</td>
<td>LD50 &gt; 9000 mg/kg ( Rat )</td>
<td>Not listed</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicologically Synergistic Products**

No information available

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

**Irritation**

Irritating to eyes, respiratory system and skin Vapors may cause drowsiness and dizziness

**Sensitization**

May cause sensitization by skin contact

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td>Not listed</td>
<td>X</td>
<td>Not listed</td>
</tr>
<tr>
<td>Aluminium</td>
<td>7429-90-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**

No information available
Reproductive Effects: No information available.
Developmental Effects: No information available.
Teratogenicity: No information available.

STOT - single exposure:
- Respiratory system
- Central nervous system (CNS)

STOT - repeated exposure:
- Lungs

Aspiration hazard: No information available

Symptoms / effects, both acute and delayed:
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information: No information available

Other Adverse Effects:
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity:
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Do not empty into drains. The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>EC50 = 0.1 mg/L 72h&lt;br&gt;EC50 = 0.18 mg/L 72h</td>
<td>LC50: &gt; 100 mg/L, 96h (Brachydanio rerio)&lt;br&gt;LC50: = 1.3 mg/L, 96h&lt;br&gt;semi-static (Cyprinus carpio)&lt;br&gt;LC50: = 10.4 mg/L, 96h&lt;br&gt;static (Cyprinus carpio)</td>
<td>Not listed</td>
<td>EC50 = 510 µg/L 96h</td>
</tr>
</tbody>
</table>

Persistence and Degradability: Insoluble in water

Bioaccumulation/ Accumulation: No information available.

Mobility: Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods:
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN1378
- Proper Shipping Name: METAL CATALYST, WETTED
- Hazard Class: 4.2
- Packing Group: II

TDG
- UN-No: UN1378
- Proper Shipping Name: METAL CATALYST, WETTED
- Hazard Class: 4.2
- Packing Group: II

IATA
- UN-No: UN1378
Proper Shipping Name: METAL CATALYST, WETTED
Hazard Class: 4.2
Packing Group: II

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
<tr>
<td>Aluminium</td>
<td>7429-90-5</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export: Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
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<td>-</td>
<td>231-791-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-35400</td>
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<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>X</td>
<td>-</td>
<td>231-111-4</td>
<td>X</td>
<td>X</td>
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<td>KE-25818</td>
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<td>7429-90-5</td>
<td>X</td>
<td>-</td>
<td>231-072-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-00881</td>
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</table>

U.S. Federal Regulations

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
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<tbody>
<tr>
<td>Nickel</td>
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<td>46-49</td>
<td>0.1</td>
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<td>Aluminium</td>
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<td>1-4</td>
<td>1.0</td>
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</tbody>
</table>

SARA 311/312 Hazard Categories: See section 2 for more information

CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA - Occupational Safety and Health Administration: Not applicable

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>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>100 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>Carcinogen</td>
<td>-</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Nickel</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aluminium</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

**Other International Regulations**

- Mexico - Grade: No information available

**16. Other information**

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date: 24-Nov-2010
Revision Date: 25-Apr-2019
Print Date: 25-Apr-2019
Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer:
The information provided in this 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 SDS