SAFETY DATA SHEET



Nickel Catalyst Refill, Part Number 5080-8761

Section 1. Identification

1.1 Product identifier

Product name : Nickel Catalyst Refill, Part Number 5080-8761

 Part no.
 : 5080-8761

 Validation date
 : 12/8/2021

1.2 Relevant identified uses of the substance or mixture and uses advised against

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use

1 x 1 g vial

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer: Agilent Technologies, Inc.

5301 Stevens Creek Blvd Santa Clara, CA 95051, USA

800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Classification of the substance or mixture

H317 SKIN SENSITIZATION - Category 1
H350 CARCINOGENICITY - Category 1A

H372 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

H400 AQUATIC HAZARD (ACUTE) - Category 1 H410 AQUATIC HAZARD (LONG-TERM) - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic

environment: 79%

2.2 GHS label elements

Hazard pictograms







Signal word : Danger

Hazard statements : H317 - May cause an allergic skin reaction.

H350 - May cause cancer.

H372 - Causes damage to organs through prolonged or repeated exposure. (lungs,

respiratory tract)

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention: P201 - Obtain special instructions before use.

P280 - Wear protective gloves, protective clothing and eye or face protection.

P273 - Avoid release to the environment.

P260 - Do not breathe dust.

P270 - Do not eat, drink or smoke when using this product.

Date of issue: 12/08/2021 1/11

Section 2. Hazards identification

: P391 - Collect spillage. Response

P308 + P313 - IF exposed or concerned: Get medical advice or attention.

P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national

and international regulations.

2.3 Other hazards

Eye contact

Hazards not otherwise : None known.

classified

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	%	CAS number
Kieselguhr, calcined	≥75 - ≤90	91053-39-3
Nickel	≥10 - ≤25	7440-02-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10

minutes. Get medical attention.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If Inhalation

not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash

contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean

shoes thoroughly before reuse.

Wash out mouth with water. Remove dentures if any. If material has been swallowed Ingestion and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting

unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing

such as a collar, tie, belt or waistband.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards. Inhalation : No known significant effects or critical hazards.

Date of issue: 12/08/2021 2/11

Section 4. First aid measures

Skin contact: May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

9

: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing

media

: None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

: This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

 Decomposition products may include the following materials: metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Date of issue: 12/08/2021 3/11

Section 6. Accidental release measures

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

: Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

: Industrial applications, Professional applications.

Industrial sector specific

: Not available.

solutions

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

12/08/2021 Date of issue:

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Kieselguhr, calcined Nickel	ACGIH TLV (United States). TWA: 0.025 mg/m³, (Silica. Crystalline) 8 hours. Form: Respirable fraction ACGIH TLV (United States, 1/2021). TWA: 1.5 mg/m³ 8 hours. Form: Inhalable fraction OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m³, (as Ni) 8 hours. NIOSH REL (United States, 10/2020). TWA: 0.015 mg/m³, (as Ni) 10 hours. OSHA PEL (United States, 5/2018). TWA: 1 mg/m³, (as Ni) 8 hours.

8.2 Exposure controls

Appropriate engineering controls

- local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

 Emissions from ventilation or work process equipment should be checked to ensure
- **Environmental exposure** controls
- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures,

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Date of issue: 12/08/2021 5/11

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Solid. [Powder.]

Color : Gray. Odor : Odorless. **Odor threshold** Not available. pН : Not available. : >1950°C (>3542°F) Melting point/freezing point

Boiling point, initial boiling

point, and boiling range

: Not available.

: Not applicable. Flash point **Evaporation rate** : Not available. **Flammability** : Not available. Lower and upper explosion : Not applicable.

limit/flammability limit

: Not available. Vapor pressure : Not applicable. **Relative vapor density** : Not available. Relative density

Solubility : Insoluble in the following materials: cold water and hot water.

: No. Miscible with water

Partition coefficient: n-

octanol/water

: Not applicable.

: Not applicable. **Auto-ignition temperature Decomposition temperature** : Not available. **Viscosity** : Not applicable.

Particle characteristics

: Not available. Median particle size

Section 10. Stability and reactivity

: No specific test data related to reactivity available for this product or its ingredients. 10.1 Reactivity

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : May react or be incompatible with oxidizing materials.

Reactive or incompatible with the following materials: acids.

10.6 Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Date of issue: 12/08/2021 6/11

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary

: Contains crystalline silica, which may cause lung disease and/or cancer.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary

: Not available.

Carcinogenicity

Conclusion/Summary

: Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Kieselguhr, calcined	-	-	Known to be a human carcinogen.
Nickel	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary: Not available.

Teratogenicity

Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Kieselguhr, calcined	Category 1		lungs
Nickel	Category 1		respiratory tract

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contactInhalationNo known significant effects or critical hazards.No known significant effects or critical hazards.

Skin contact: May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

Date of issue: 12/08/2021 7/11

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects

: Not available.

Long term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a

severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards. Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Nickel	Acute EC50 2 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 450 μg/l Fresh water Acute EC50 1000 μg/l Marine water Acute IC50 0.31 mg/l Marine water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	4 days 48 hours 48 hours
	Acute LC50 47.5 ng/L Fresh water Chronic NOEC 100 mg/l Marine water Chronic NOEC 3.5 µg/l Fresh water	Fish - Heteropneustes fossilis Algae - Glenodinium halli Fish - Cyprinus carpio	96 hours 72 hours 4 weeks

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Date of issue: 12/08/2021 8/11

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / : Not regulated.

IATA

Additional information

DOT Classification

: Reportable quantity 476.19 lbs / 216.19 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available.

to IMO instruments

Section 15. Regulatory information

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

U.S. Federal regulations

: TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: Nickel

Clean Air Act Section 112 : Listed

(b) Hazardous Air **Pollutants (HAPs)**

: Not listed

Class I Substances

Clean Air Act Section 602

Clean Air Act Section 602

: Not listed

Class II Substances

12/08/2021 Date of issue:

Section 15. Regulatory information

DEA List I Chemicals

(Precursor Chemicals)

: Not listed

: Not listed

DEA List II Chemicals (Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : SKIN SENSITIZATION - Category 1

CARCINOGENICITY - Category 1A

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Composition/information on ingredients

Name	%	Classification
Kieselguhr, calcined		CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Nickel		SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Nickel	7440-02-0	≥10 - ≤25
Supplier notification	Nickel	7440-02-0	≥10 - ≤25

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: NICKEL; NICKEL CATALYST

New York : The following components are listed: Nickel

New Jersey : The following components are listed: Kieselguhr, calcined; NICKEL

Pennsylvania : The following components are listed: Kieselguhr, calcined; NICKEL CATALYST

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including Kieselguhr, calcined and Nickel, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Kieselguhr, calcined Nickel	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Date of issue: 12/08/2021 10/11

Section 15. Regulatory information

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan inventory (CSCL): Not determined.

Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted. **Philippines** : All components are listed or exempted. Republic of Korea : All components are listed or exempted. : All components are listed or exempted. **Taiwan Thailand** : All components are listed or exempted. : All components are listed or exempted. Turkey **United States** : All components are active or exempted. **Viet Nam** : All components are listed or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
KIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

History

Date of issue : 12/08/2021 Date of previous issue : 07/30/2021

Version : 7.1

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

Date of issue: 12/08/2021 11/11