

HAYNES INTERNATIONAL, INC.

SAFETY DEPARTMENT
1020 WEST PARK AVENUE
KOKOMO, INDIANA 46904-9013
INFORMATION: 765-456-6714

PRODUCT IDENTIFICATION

Filter Cake

PREVIOUS
REVISION DATE
January 18, 2016

DATE REVISED
July 30, 2026

HMIS
Health 2*
Flammability 0
Reactivity 1
*Chronic effects

EMERGENCY PHONE NUMBERS

HAYNES: 765-456-6894

CHEMTREC: 800-424-9300
(24-hour contact for Health & Transportation
Emergencies)

This Safety Data Sheet (SDS) provides information on a specific metal by-product. Because filter cake is a by-product from the manufacture of many different alloys, the specific constituent composition varies from batch to batch. Therefore, the ingredients are listed as a range of composition. This document was prepared to meet the requirements of OSHA's Hazard Communication Standard, 29 CFR 1910.1200, the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals, and the Superfund Amendments and Reauthorization Act of 1986 Public Law 99-949.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUBSTANCE NAME: Filter Cake

Description: Filter cake from wastewater treatment process

General Use: Recycled to reclaim metal content

HAYNES is a registered trademark of Haynes International, Inc.

2. HAZARDS IDENTIFICATION

GHS Hazard Classification and Label Elements

Corrosive to metals, (Category 1)
Skin corrosion, (Category 1)
Serious eye damage (Category 1)
Skin sensitization, (Category 1B)
Carcinogenicity, (Category 2)
Specific target organ toxicity – repeated exposure,
inhalation, (Category 1)
Acute aquatic toxicity, (Category 2)
Chronic aquatic toxicity, (Category 2)



Signal Word: **DANGER**

Hazard Statements

H290 May be corrosive to metals
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H351 Suspected of causing cancer
H372 Causes damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when handling this material.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.

2. HAZARDS IDENTIFICATION (Continued)

Precautionary Statements (Continued)

P280	Wear protective gloves, protective clothing, and eye protection.
P284	If handling indoors without local exhaust ventilation, wear a full-face respirator with HEPA cartridges.
P301 + P310 + P330 + P331	If SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth. Do not induce vomiting.
P303 + P361 + P353	If ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CONTROL CENTER or doctor/physician.
P305 + P351 + P338 + P310	IF in EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Immediately call a POISON CONTROL CENTER or doctor/physician.
P308 + P313	If exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	If this product can't be recycled; dispose of contents / container to an approved waste disposal plant.

Hazards not otherwise classified or not covered by GHS: none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	% by weight
Water	7732-18-5	60-65
Sodium Hydroxide, and Calcium Hydroxide	1310-73-2	25-35
Nickel	1305-62-0	
Chromium	7440-02-0	1-6
	7440-47-3	0.5-2

4. FIRST AID MEASURES

INHALATION	Remove exposed person to fresh air. Encourage the patient to blow nose to ensure clear breathing passages. Rinse mouth with water. Consider drinking water to remove material from throat. Get medical help if irritation or discomfort persists.
EYE CONTACT	Do not allow the victim to rub or keep eyes tightly shut. Rinse with water for several minutes. Remove contact lenses, if present and easy to do so. Gently lift the eyelids and flush immediately and continuously with copious amounts of water for at least 15 minutes. Ensure irrigation under eyelids by occasionally lifting the upper and lower lids. Transport the patient to an emergency medical facility without delay. Consult an ophthalmologist immediately.
SKIN CONTACT	Quickly remove contaminated clothing, including footwear (after rinsing with water) and launder before wearing again. Wash affected skin with soap and water. Seek medical attention in event of irritation.
INGESTION	Never give anything by mouth to an unconscious person. Rinse mouth out with plenty of water. Consult with a physician or medically trained personnel at a poison control center. Unless the poison control center advises otherwise, have that conscious and alert person drink 1 to 2 glasses of water or milk to dilute. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA: This material is noncombustible. Use extinguishing agents that will put out the surrounding fire.

5.2 Specific Hazards: This material is not ignitable as mass and is not a flammable solid. When subjected to direct flame or heating, the material may smolder but will not propagate a fire.

5.3 Advice for Firefighters: Fire fighters should wear normal protective equipment (full bunker gear) and a self-contained breathing apparatus (SCBA) with full facepiece operated in positive-pressure mode. Prevent, by any means available, spillage from entering drains or waterways.

HAZARDOUS COMBUSTION PRODUCTS: None identified

6. ACCIDENTAL MATERIAL RELEASE CONTROL MEASURES

In solid form, this material poses no special clean-up problems. If this material is in small particle or dust form, notify safety and environmental personnel of spills or leaks. Cleanup personnel need protection against eye contact and dust inhalation. Use dry cleanup procedures and a high efficiency (HEPA filtered) vacuum so that airborne dust does not exceed the PEL. Do not blow with compressed air which could cause a dusting problem. Do not dispose of material in sanitary sewer or storm sewer which includes sinks, toilets, and floor drains. Collect recoverable material into clean, dry, sealable, labeled containers for recycling. See storage precautions, Section 7. If contamination of drains or waterways occurs, advise emergency services. Follow applicable OSHA regulations (29 CFR 1910.120).

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING	Wear personal protective equipment and clothing to prevent dust or fume inhalation and contact with skin or eyes. Practice good personal hygiene after using this material, e.g. wash hands and face.
7.2 CONDITIONS FOR SAFE STORAGE INCLUDING INCOMPATIBILITIES	Do not store material in aluminum or galvanized containers. Store the dust form of this material (such as created by handling or crushing) in a closed container and handle to prevent dusting or any material leaks. Store slag in a cool, dry, well-ventilated area away from incompatibles (Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

			Exposure Limit 8-Hour TWA (mg/m ³)		
	CAS No.	% by weight	OSHA PEL ²	ACGIH TLV ²	Other (MAK)
Water	7732-18-5	60-65	Not Est. ¹	Not Est. ¹	
Sodium Hydroxide	1310-73-2	25-35	2	2 C	
Calcium Hydroxide	1305-62-0		15	5	
Nickel*	7440-02-0	1-6	1	1.5 ³	
Chromium*	7440-47-3	0.5-2	1	0.5	

* Reportable ingredients per section 313 of SARA. See Section 15 for additional information.

1 Not Established: Many substances do not have a unique exposure limit. The absence of an exposure limit does not lessen consideration for exposure risk. In the absence of specific information, professional judgment may be required.

2 Total dust/aerosol. (All limits are total dust, unless indicated otherwise)

3 Inhalable dust/aerosol.

C = Ceiling limit.

ENGINEERING CONTROLS	Where feasible, enclose operations to avoid particle dispersion into the work area. The use of local exhaust ventilation may be necessary to control airborne levels of dust/particle emissions near the source below the exposure limits cited in this Section.
RESPIRATORY PROTECTION	When engineering controls are not sufficient to reduce exposure, seek professional advice prior to respirator selection and use. When respiratory protection is required, follow OSHA respirator regulations (29 CFR 1910.134) and wear a NIOSH-approved respirator for dust.
SKIN PROTECTION	Wear impervious gloves (nitrile rubber, PVC, or neoprene) minimum layer thickness: 0.11 mm, protective clothing, aprons, etc., as required by the work environment to prevent prolonged or repeated skin contact.
EYE PROTECTION	Wear safety glasses with side shields or chemical safety goggles, when exposed to dust or flying particulate, as required by OSHA regulations (29 CFR 1910.133).

9. PHYSICAL AND CHEMICAL PROPERTIES		
PHYSICAL STATE: Solid	LOWER and UPPER EXPLOSIVE LIMITS: NA	PARTITION COEFFICIENT N-OCTANOL/WATER; NA
COLOR: Dark brown and/or green	FLASH POINT: NA	RELATIVE DENSITY: (H ₂ O=1): 1.5-1.75
ODOR: None	AUTO-INGITION TEMPERATURE: NA	VAPOR PRESSURE (at 20°C): N A
MELTING RANGE: Unknown	pH = 9.4	VAPOR DENSITY: NA
BOILING RANGE: Unknown	KINEMATIC VISCOSITY: NA	PARTICLE CHARACTERISTICS: NA
FLAMMABILITY: Not applicable (NA)	SOLUBILITY IN WATER = Slight	
10. STABILITY AND REACTIVITY		
GENERAL:	This product as a solid article is stable at room temperature under normal storage and handling conditions.	
CONDITIONS TO AVOID:	Not applicable.	
CHEMICAL INCOMPATIBILITIES:	This material forms salts with nitroparaffins which are explosive when dried. Do not use aluminum or galvanized containers.	
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition can produce nickel and chromium oxides.	
HAZARDOUS POLYMERIZATION:	Does not occur.	
11. TOXICOLOGICAL INFORMATION		
TOXICITY DATA (Toxicological effects described in this section are those that would be expected, based on data from the components of the product. This product has not been tested as a whole)	Eye: Draize test, Rabbit 1% (sodium hydroxide) resulted in severe irritation. Eye: Draize test, Rabbit 50 µg/24 hour (sodium hydroxide) resulted in severe irritation. Eye: Draize test, Rabbit 400 µg (sodium hydroxide) resulted in mild irritation.	
	Skin: Rabbit, subcutaneous, (nickel) LD _{Lo} : 7.5 mg/kg. Draize test, Rabbit 500 mg / 24 hours (sodium hydroxide) resulted in severe irritation.	
	Ingestion: Rat (chromium) LD ₅₀ : >15,000 mg/kg. Rat (nickel) LD ₅₀ : 250 mg/kg.	
	Inhalation: Rabbit (nickel): 130 µg/m ³ / 6 hours for 35 weeks intermittently produced toxic effects: changes in the lung, thorax or respiration. Rat (nickel): 100 µg/m ³ /24 hours for 17 weeks, continuous exposure, liver function tests impaired.	
	Sub chronic: Target organs include: eyes, respiratory tract, and skin.	
	Nickel is designated as a human carcinogen by NTP (Class R, reasonably anticipated to be a carcinogen) and IARC (Group 2B, possibly carcinogenic to humans). Teratology: Hamster, embryo cells (nickel); 5µmol./liter induced morphological transformation. Reproduction: Rat, oral (nickel), 158 mg/kg administered to multi-generations produced fetotoxicity and fetal death. Mutagenicity: No data.	

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects:	<u>Nickel</u> LC ₅₀ – Cyprinus carpio (Carp) 1.3 mg/l – 96 hours EC ₅₀ – Daphnia magna (Water flea) – 1mg/liter – 48 hours LC ₅₀ – (Rainbow trout) 302 ppm – 48 hours <u>Chromium III</u> Static test LC ₅₀ – Danio rerio (Zebra fish) >10,000 mg/l – 96 hours LC ₅₀ – Cyprinus carpio (Carp) 14.3 mg/l – 96 hours
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Bioaccumulative Potential:	No data available.
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Persistence and degradability:	No data available.
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Mobility in Soil:	No data available.
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Environmental Fate: Particulate nickel may be transported in the atmosphere and is removed by wet and dry deposition processes with transfer to soils and water.
Elemental chromium is relatively unreactive in the atmosphere. Chromium released to water is expected to be deposited in sediments. Chromium will not volatilize from surface water.

13. DISPOSAL CONSIDERATIONS

RCRA Hazardous Waste (40 CFR 261): This material is not hazardous by TCLP metals analysis. Review federal, state (e.g. Michigan) and local government requirements prior to disposal. Disposal by landfill may be acceptable.

Consult an expert on the disposal of recovered dust. Ensure conformity with local disposal regulations.

14. TRANSPORTATION INFORMATION (Not Meant to be All Inclusive)

Department of Transportation (DOT) hazard class: Not regulated.

SHIPPING NAME	Not Applicable
IDENTIFICATION NUMBER	Not Applicable
HAZARD CLASS	Not Applicable
LABEL(S) REQUIRED	Not Applicable

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS	OSHA: Listed as an air contaminant (29 CFR 1910.1000). Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). TSCA (Toxic Substance Control Act): Components of this material are listed on the TSCA inventory. CERCLA: Hazardous Substance (40 CFR 302.4): Nickel (RQ 100 pounds). Chromium (RQ 5,000 pounds) Extremely Hazardous substance (40 CFR 355): Not listed. SARA HAZARD CATEGORY: Listed below are the hazard categories for Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III): Immediate Hazard: X Delayed Hazard: X Fire Hazard: - Pressure Hazard: - Reactivity Hazard: - Chemicals subject to the reporting requirements of Section 313 or title III of SARA and 40 CFR Part 372: Chromium, Nickel.
U.S. FEDERAL REGULATIONS	
STATE REGULATIONS	WARNING:  This product can expose you to chemicals including chromium, and nickel, which are known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov. Materials known to cause cancer or reproductive toxicity: Nickel.

16. OTHER INFORMATION

MSDS STATUS: Replaces previous version January 18, 2016

The above information has been prepared by APTIM LLC under contract with Haynes International and is a compilation of information from various sources believed to be accurate. As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any material described herein. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable Federal, State, and local laws and regulations remain the responsibility of the user.

LABEL INFORMATION

HAYNES® Filter Cake



Safety Department, 1020 West Park Avenue, Kokomo, Indiana 46904-9013
Information: 1-765-456-6714; Emergency 1-765-456-6894; CHEMTREC: 800-424-9300

Hazard Classifications

Corrosive to metals

Skin corrosion

Skin sensitization

Carcinogenicity

Specific organ toxicity – repeated exposure, inhalation

Acute and Chronic aquatic toxicity

Hazard Statements

May be corrosive to metals

Causes severe skin burns

May cause an allergic skin reaction

Suspected of causing cancer

Causes damage to organs through prolonged or repeated exposure

Very toxic to aquatic life with long lasting effects



Signal Word: DANGER

Ingredient	CAS No.	% by weight
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Calcium Hydroxide	1305-62-0	
Nickel	7440-02-0	1-6
Chromium	7440-47-3	0.5-2

Precautionary Statements

See the Safety Data Sheet for additional information

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood

Do not breathe dust.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when handling this material.

Wear Eye protection / face protection. Wear protective gloves.

Contaminated work clothing should not be allowed out of the workplace.

Collect spillage. Avoid release to the environment.

If handling indoors without local exhaust ventilation, wear a full face respirator with HEPA cartridges.

Call a POISON CENTER or doctor/ physician if you feel unwell.

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

If exposed or concerned: Get medical advice/ attention.

Whenever possible recover alloys for reuse or recycling. If this product can't be recycled, dispose of contents/ container to an approved waste disposal plant in accordance with local, state or federal regulations.

First Aid: (The following instructions apply only to the dust form of the product)

Inhalation: Breathing difficulty caused by inhalation of dust requires removal to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a POISON CONTROL CENTER or doctor/ physician. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.

Ingestion: Rinse mouth, but never give anything by mouth to an unconscious person. Contact a POISON CONTROL CENTER or doctor/ physician. Do not induce vomiting unless the poison control center advises otherwise.

Skin: Skin cuts and abrasions can be treated by standard first aid. For contamination with dust or powder, immediately take off contaminated clothing and wash before reuse. Do not shake clothing. Wash skin with plenty of soap and water. If skin irritation or rash occurs, get medical advice/ attention.

Eyes: Do not allow victim to rub or keep eyes tightly shut. Dust or powder should be flushed from the eyes by first rinsing cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CONTROL CENTER or doctor/ physician. If eye irritation persists, get medical advice/ attention.

Notice: • Avoid breathing dust or fume. If the use of this material produces dust or fume, use appropriate ventilation controls, personal protective equipment or both. For additional information refer to the Safety Data Sheet (SDS) for this product.