

Material Safety Data Sheet: nora[®] patch

Date: 11.2.2010

1) Chemical Product and Company Identification

Product details:

Manufacturer/Supplier:

nora systems, Inc.

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Trade Name and Synonyms: nora[®] patch

Product use: Patching suitable substrates

CAS number: Mixture

Product Description: Fast setting latex fortified Portland cement-based patch

2) Composition/Information on Ingredients

Hazardous components:	CAS #	Percent
Gypsum (Ca(SO ₄),2H ₂ O)	13397-24-5	0.1 - 1
Silica, Quartz	14808-60-7	0.1 - 1
Calcium carbonate	1317-65-3	< 60
Plaster of paris	26499-65-0	< 25
Portland Cement	65997-15-1	< 25
Cellulose	9004-34-6	< 15
Clay	1332-58-7	< 15

Composition comments: Chronic overexposure to Silica can cause chronic lung disease (Silicosis) and/or cancer. Portland Cement contains up to 10 ppm (0.001% Hexavalent chromium, which is a skin sensitizer and carcinogen. In its end use form this product has a high pH and is caustic.

Chemical characterization:

Parts Per Million (ppm) = 0.0001%

mg/kg = 1 ppm (0.0001%)

g/kg = 1000 ppm (0.1%)

Conversion from mg/m³ to ppm: ppm = (mg/m³ / molecular weight in grams) x 24.45

3) Hazardous Identifications

Emergency overview: Exposure to dust may be irritating to eyes, nose and throat. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of silica dust.

This product contains trace amounts of Hexavalent chromium, a skin sensitizer and human carcinogen.

Prolonged/repeated exposure may cause severe allergic skin reactions and/or cancer.

Wet product has a high pH and is caustic. Wet product or dry product on moist skin can potentially cause severe irritation and/or irreversible tissue damage due to chemical (caustic) burns).

Potential health effects:

Skin: Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. Mechanical rubbing may increase skin irritation.

Skin contact may cause an allergic response in some individuals due to trace amounts of chromium (6+) salts. Symptoms can range from a mild rash to severe skin ulcers. Persons already sensitized to Hexavalent chromium may experience symptoms after minimal exposure.

Wet product has a high pH and is caustic. Exposure of sufficient duration to wet product, or to dry product on moist skin, can cause serious, potentially irreversible tissue damage due to chemical (caustic) burns including third degree burns.

Eyes: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet product may cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid a medical attention to prevent significant damage to the eye.

Inhalation: This product contains free crystalline silica. Prolonged or repeated inhalation of crystalline silica can aggravate lung conditions and lead to silicosis, a serious disabling and potentially fatal lung disease. Inhalation of free crystalline silica has also been linked to increased occurrence of renal disease and auto immune disorders.

Ingestion: May cause nausea, vomiting, pain, stomach upset and diarrhea. Ingestion of large quantities may cause chemical burns in the mouth, throat, stomach, and digestive tract.

Target organs: Respiratory tract – Silica can target and damage lungs.

Some studies show an increased incidence in kidney and end stage renal disease in individuals exposed to respirable Silica. Hexavalent chromium can cause skin sensitization and damage.

4) First Aid Measures

First aid procedures:

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

Skin contact Wash affected area with mild soap and water. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged, unprotected exposures to wet product.

Inhalation If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist. Consult a physician after significant exposure.

Ingestion If the material is swallowed, get immediate medical attention or advice - Do not induce vomiting.

Notes to physician Short-term exposure to very large amounts of respirable crystalline silica can cause serious lung inflammation and pulmonary edema, resulting in shortness of breath and low blood oxygen levels. Longer-term exposure may result in nodules of chronic inflammation and scarring in the lungs and chest lymph nodes. Symptoms of long-term exposure may resemble those of chronic obstructive pulmonary disease (COPD).

5) Fire-Fighting Measures and Fire Hazards

Hazardous combustion products: Non-combustible, substance itself does not burn.

Suitable extinguishing media: Use any media suitable for the surrounding fires.

Basic fire fighting procedures: Not a fire hazard. This material will not burn. Wet product has a high pH and is caustic. Firefighters should wear full protective clothing including self contained breathing apparatus. Use personal protective equipment to prevent inhalation of airborne product and eye and skin contact with wet or dry product.

Dust explosion hazard: None Known

Sensitivity to static discharge: None Known

Sensitivity to mechanical impact: None Known

Flash point: Non-Flammable

6) Accidental Release Measures (Spills or Leaks)

Emergency action: Avoid actions that cause the dry product to become airborne during clean up. Avoid inhalation and contact with eyes and skin. Place spilled material into a container for re-use or proper disposal.

Wet product has a high pH and is caustic. Wear appropriate protective equipment as described in section 8.

Reporting: See federal reporting requirements listed in section 15. We may recommend you contact local authorities to determine if there may be other local reporting requirements.

7) Handling and Storage

Handling: Avoid breathing dusts from this material. Avoid getting this material into contact with your skin and eyes. Promptly remove and launder clothing that is dusty or wet with product. Thoroughly wash skin after exposure to dry or wet product.

Storage: Store in a clean and dry area. Keep containers closed.

8) Exposure Controls, Personal Protection

Engineering controls: Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

Eye protection: Wear safety goggles to prevent eye contact with dry or wet product. In extremely dusty or unpredictable environments, wear un-vented or indirectly vented goggles to avoid eye irritation or injury.

Skin and body protection: Wear impervious abrasion and alkaline resistant gloves and boots, long sleeved shirt, long pants, safety goggles and other protective clothing as required preventing skin contact. Remove clothing and protective equipment that becomes dusty from dry product or saturated with wet product and immediately wash exposed areas.

Respiratory protection: None required where adequate ventilation conditions exist. Special applications may necessitate the use of more stringent respiratory protection equipment.

General: Eye wash fountain and emergency showers are recommended.

Exposure limits:

ACGIH – Threshold Limits Value – Time Weighted Averages (TLV-TWA):

Cellulose	9004-34-6	10 mg/m ³ TWA
Clay	1332-58-7	2 mg/m ³ TWA (respirable fraction, particulate matter containing no asbestos and <1% crystalline silica).
Gypsum (Ca (SO ₄).2H ₂ O)	13397-24-5	10 mg/m ³ TWA (Inhalable fraction, listed under Calcium sulfate)
Portland Cement	65997-15-1	10 mg/m ³ TWA (particulate matter containing no asbestos and <1% crystalline silica).
Silica, Quartz	14808-60-7	0.025 mg/m ³ TWA (respirable dust)

NIOSH – Pocket Guide – TWAs:

Calcium carbonate	1317-65-3	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Cellulose	9004-34-6	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Clay	1332-58-7	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Gypsum (Ca (SO ₄).2H ₂ O)	13397-24-5	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Plaster of paris	26499-65-0	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Portland Cement	65997-15-1	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Silica, Quartz	14808-60-7	0.05 mg/m ³ TWA (respirable dust)

U.S. – OSHA – Final PELs – Time Weighted Average (TWAs):

Calcium carbonate	1317-65-3	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Cellulose	9004-34-6	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Clay	1332-58-7	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Gypsum (Ca (SO ₄).2H ₂ O)	13397-24-5	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Plaster of paris	26499-65-0	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Portland Cement	65997-15-1	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

U.S. – OSHA – Vacated PELs – TWAs:

Calcium carbonate	1317-65-3	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Cellulose	9004-34-6	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Clay	1332-58-7	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Gypsum (Ca (SO ₄).2H ₂ O)	13397-24-5	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Plaster of paris	26499-65-0	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Portland Cement	65997-15-1	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Silica, Quartz	14808-60-7	0.1 mg/m ³ TWA (respirable dust)

9) Physical and Chemical Properties

Target solids:	100 %
pH:	N/A (pH of wet product is 12.0 or greater)
Density:	0.87 g/cc
Odor:	Mild
Color:	Gray
Physical state;	Powder
Freeze protect;	No

10) Stability and Reactivity

Hazardous reactions/decomposition products: Wet product has a high pH and is caustic. This product is incompatible with acids, ammonia, salts, and aluminum metal

Stability: Stable under normal conditions.

11) Toxicological Information

Toxicological Data: All available data is listed below.

LD50:

Toxicology Data – Selected LD50s and LC50s

Cellulose	9004-34-6	Inhalation LC50 Rat: >5800 mg/m ³ /4H; Oral LD50 Rat;>5
Silica, Quartz	14808-60-7	Oral LD50 Rat: 500 mg/m ³

Chronic effects:

Chronic overexposure to Silica has been associated with the development of chronic lung disease (Silicosis) and cancer. Hexavalent chromium can cause skin sensitization, dermatitis, and cancer. Individuals already sensitized to Hexavalent chromium can have an adverse reaction to even small exposures.

Carcinogenicity: All available data is listed below.

IARC – Group 1 (Carcinogenic to Humans):

Silica, Quartz	14808-60-7	Monograph 68 (1997) (listed under crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).
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NIOSH – Pocket Guide – Potential Occupational Carcinogens:

Silica, Quartz	14808-60-7	Potential occupational carcinogen.
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NTP (National Toxicology Program) – Report on Carcinogens – Known Carcinogens:

Silica, Quartz	14808-60-7	Known carcinogen.
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U.S. – OSHA – Hazard Communications Carcinogens:

Silica, Quartz	14808-60-7	Present.
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12) Ecological Information

Eco-toxicological information: Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

General notes: Do not allow product to reach ground water, water course or sewage system.

13) Disposal Considerations

General: It is the obligation of each user of the product mentioned herein to determine and comply with all of the requirements of all applicable federal, state and local laws and regulations.

Waste disposal: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Proper waste disposal is the responsibility of the owner of the waste.

14) Transportation Information

DOT (Department of Transportation) Requirements: Not regulated as dangerous goods.
IATA: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.

15) Regulator Information

General: The MSDS is prepared and distributed pursuant to the Federal Hazard Communication Standard, 29 CFR 1910.1200.

Federal regulations: All components are on the U.S. EPA TSCA Inventory List.

State regulations: All available data is listed below.

U.S. – California – Proposition 65 – Carcinogens List:

Silica, Quartz 14808-60-7 carcinogen, initial date 10/1/88 (airborne particles of respirable size)

U.S. – California – Proposition 65 – Developmental Toxicity:

Lithium carbonate 554-13-2 developmental toxicity, initial date 1/1/91

International regulations: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

SARA 311/312 Hazard Categories:

Immediate Hazard – Yes
 Delayed Hazard – Yes
 Fire Hazard – No
 Pressure Hazard – No

HMIS Ratings:

Hazard index:

0: Minimal Hazard
 1: Slight Hazard
 2: Moderate Hazard
 3: Serious Hazard
 4: Severe Hazard

HMIS ratings:

Health = 3
 Flammability = 0
 Reactivity = 0
 Personnel protection: X

WHMIS Information: Controlled

WHMIS labeling:



WHMIS classification:

D2A – Other Toxic Effects – VERY TOXIC
 D2B – Other Toxic Effects – TOXIC
 E – Corrosive

16) Other Information

Disclaimer: The data in this MSDS has been compiled from publicly available sources. This data relates only to the designated product and not to the use of said product in combination with other materials. All materials may present unknown hazards and should be used with caution. Although all known hazards are described herein, we cannot guarantee that these are the only hazards which exist. Responsibility for proper precautions and safe use of the product lies with the user. All data in this MSDS is typical of the product as a whole, and does not represent any individual lot or batch, therefore, nora systems, Inc. makes no warranty about the accuracy of the data herein and assumes no liability for the use of such data. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

All employees or contractors, etc., who use this product must have access to this Material Safety Data Sheet.

PREPARED BY: nora systems, Inc.

17) Definitions

ACGIH: American Conference of Governmental Industrial Hygienists.

ASPIRATION HAZARD: The danger of drawing material into the lungs, leading to an inflammatory response that can be fatal.

CFR: Code of Federal Regulations (U.S.). A collection of regulations established by law.

CARCINOGEN: A material that either causes cancer in humans, or is considered capable of causing cancer in humans.

COMBUSTIBLE: A term used to classify certain materials with low flash points that ignite easily. For OSHA it has a flash point greater than 100°F (38°C) but below 200°F (93°C).

DOT: U.S. Dept. of Transportation.

FLAMMABLE: A material that gives off vapors that readily ignites at room temperatures. OSHA defines flammable as a material with a flash point less than 100°F (38°C).

FLASH POINT: The lowest point at which a liquid gives off sufficient vapor to form an ignitable mixture with air.

HAZARDOUS: Any substance or mixture of substances having properties capable of producing adverse effects on the health or safety of a human.

IARC: International Agency for Research on Cancer.

IRRITANT: A substance capable of causing an inflammatory effect on living tissue by chemical action at the site of contact.

LD50: Lethal Dose 50. The single dose of a substance that causes death of 50% of an animal population from exposure to the substance from any route other than inhalation.

LEL: Lower Explosive Limit. The lowest concentration of vapor that burns or explodes when an ignition source is present at ambient temperatures.

LFL: Lower Flammable Limit. See L.E.L.

MSHA: Mine Safety and Health Administration (U.S.).

NFPA: National Fire Protection Association (U.S.).

NIOSH: National Institute of Occupational Safety and Health (U.S.).

NTP: National Toxicology Program (U.S.).

OECD: Organization for Economic Co-operation and Development.

OSHA: The Occupational Safety and Health Administration (U.S.).

PEL-STEL: Permissible Exposure Limit, Short Term Exposure Limit.

SCBA: Self-contained breathing apparatus.

SYSTEMIC TOXICITY: Adverse effects induced by a substance which affects the body in a general manner rather than locally.

TDG: Transportation of Dangerous Goods (Canada).

TLV-TWA: Threshold Limit Value, Time Weighted Average.

TSCA: Toxic Substance Control Act.

TOXIC: Any chemical or material that has evidence of an acute or chronic health hazard and is listed in the NIOSH Registry of Toxic Effects of Chemical Substances.

VHAP: Volatile Hazardous Air Pollutant

V.O.C.: Volatile Organic Compound.

WHMIS: Workplace Hazardous Materials Information System (Canada).