

## 1 Identification of the substance/mixture/product and of the company

### Product identifier

**Trade name:** **SANIT 91H**  
**Application of the substance / the mixture** Refractory product

### Details of the supplier of the safety data sheet

**Manufacturer/Supplier:** RHI Canada Inc.  
 4355 Fairview Street  
 Burlington, Ontario L7L 2A4  
 Canada  
 Tel 905-639-8660

**Information department:** MSDS Technical Information  
 Mail: msds@rhi-ag.com

**Emergency telephone number:** Tel: +43 699 1870 5426  
 Fax: +43 502 13 5364

## 2 Hazard(s) identification

**Information concerning particular hazards for human and environment:** not applicable

**Special labeling of certain preparations:** USA NIOSH approved / Canada CSA-Z94.4-93 approved: Respirators should be used if dust / fume is present.  
 A respiratory protection program should be implemented if exposure exceeds the American Conference of Governmental Industrial Hygienists (ACGIH) defined Time Weighted Average (TWA)

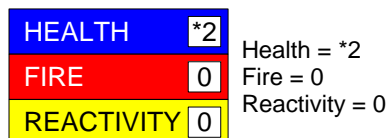
The cancer risk occurs only in the presence of dust

### Classification system

#### NFPA ratings (scale 0-4)



#### HMIS Classification



#### Carcinogenicity:

Crystalline Silica, which inhaled in the form of quartz or cristobalite from occupational sources is classified by IARC as carcinogenic to humans (Group 1). ACGIH list respirable Crystalline Silica as suspected human carcinogen (A-2)

#### Other hazards

The cancer risk occurs only in the presence of dust  
 The product is tempered (heat-treated).

The product contains small amounts of residual phenol (<0.1 %). In order to minimize the formation of health and environment-relevant decomposition products, the specified heating conditions have to be observed.

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See section 11.

## 3 Composition/information on ingredients

### Chemical characterization: Mixtures

**Description:** Shaped refractory product on the basis of

#### Dangerous components:

1344-28-1	aluminium oxide (non-fibrous form)	60-100%
1309-48-4	magnesium oxide	7-13%
7429-90-5	aluminium	3-5%
7782-42-5	graphite	3-5%
	phenolic resin hardened	3-5%

#### Additional information

This product may contain tiny amounts of binder and components such as phenol. These organic matters can be liberated during heating of the refractory material (smoke emission/ bad smell).

The phenolic resin used may cause an ammonia/fishy like smell, which might appear during storage (especially under humid conditions) or heat-up.

Repeated overexposure to very high levels of respirable Crystalline Silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Excessive inhalation of dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

## 4 First-aid measures

### Description of first aid measures

#### General information

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

#### After inhalation

Supply fresh air; consult doctor in case of complaints.

#### After skin contact

Generally the product does not irritate the skin.

#### After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

#### After swallowing

If symptoms persist consult doctor.

#### Most important symptoms and effects, both acute and delayed:

No further relevant information available.

#### Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

## 5 Fire-fighting measures

### Extinguishing media

#### For safety reasons unsuitable extinguishing agents

Not applicable, the product is fire resistant.

#### Special hazards arising from the substance or mixture

see section 2

### Advice for firefighters

#### Protective equipment /

#### Protection of firefighters:

No special measures required.

#### Harzardous combustion products

Will not occur.

#### Flammable properties

The product is fire resistant.

Not flammable.

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Additional information:

Additional information see section 9.

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## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

See section 8.

**Environmental precautions:**

See section 12.

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

**Precautions for safe handling**

Prevent formation of dust.

**Information about protection against explosions and fires:**

The product is not flammable.

**Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles:**

No special requirements.

**Information about storage in one common storage facility:**

Not applicable.

**Further information about storage conditions:**

Store in dry conditions.

**Specific end use(s)**

No further relevant information available.

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:**

No further data; see item 7.

**Control parameters**

**Exposure Guidelines (Components with limit values that require monitoring at the workplace):**

### 1344-28-1 aluminium oxide (non-fibrous form)

PEL Long-term value: 15\*; 15\*\* mg/m<sup>3</sup>  
\*Total dust; \*\* Respirable fraction

REL Long-term value: 10\* 5\*\* mg/m<sup>3</sup>  
as Al\*Total dust\*\*Respirable/pyro powd./welding f.

TLV Long-term value: 1\* mg/m<sup>3</sup>  
as Al; \*as respirable fraction

### 1309-48-4 magnesium oxide

PEL Long-term value: 15\* mg/m<sup>3</sup>  
fume; \*total particulate

TLV Long-term value: 10\* mg/m<sup>3</sup>  
\*as inhalable fraction

### 7429-90-5 aluminium

PEL Long-term value: 15\*; 15\*\* mg/m<sup>3</sup>  
\*Total dust; \*\* Respirable fraction

REL Long-term value: 10\* 5\*\* mg/m<sup>3</sup>  
as Al\*Total dust\*\*Respirable/pyro powd./welding f.

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TLV	Long-term value: 1* mg/m <sup>3</sup> as Al; *as respirable fraction
<b>7782-42-5 graphite</b>	
PEL	Long-term value: 15 mppcf* mg/m <sup>3</sup> *impinger samples counted by light field techn.
REL	Long-term value: 2.5* mg/m <sup>3</sup> *respirable dust
TLV	Long-term value: 2* mg/m <sup>3</sup> all forms except graphite fibers;*resp. fraction

**Additional information:** Decomposition products:

CAS 108-95-2 phenol  
TWA: 5 (ppm) from ACGIH (TLV) [United States]  
SKIN TWA: 19 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]  
SKIN TWA: 5 from NIOSH [United States]  
TWA: 19 (mg/m<sup>3</sup>) from NIOSH [United States]  
TWA: 5 (ppm) from OSHA (PEL) [United States]  
TWA: 19 (mg/m<sup>3</sup>) from OSHA (PEL) [United States]  
TWA: 5 (ppm) [Canada]  
TWA: 19 (mg/m<sup>3</sup>) [Canada]  
Consult local authorities for acceptable exposure limits.  
The lists that were valid during the creation were used as basis.

**Exposure controls****Personal protective equipment (PPE)****General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

**Respiratory protection / Breathing equipment:**

NIOSH approved respirators should be used if dust is present. A respiratory protection program should be implemented if exposure exceeds OSHA PELs.

**Respiratory protection Protection of hands:**

Filter P100  
Leather gloves  
Protective gloves

**Eye/face protection:**

Safety glasses with side shields

**Skin protection:**

Protective work clothing.

**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

**Form (Physical state):** Solid  
**Color:** Brown  
**Odor:** Recognizable  
**Odor threshold:** Not determined.

**pH-value:** Not applicable.

**Melting point / Melting range:** Not determined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous)** Product is not flammable.  
See section 5.

**Ignition temperature:** 400 °C (752 °F)

**Decomposition temperature:** Not applicable.

**Auto igniting:** Product is not self igniting.

**Danger of explosion:** Product does not present an explosion hazard.

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<b>Explosion limits:</b>	
<b>Lower:</b>	Not applicable.
<b>Upper:</b>	Not applicable.
<b>Vapor pressure:</b>	Not applicable.
<b>Relative density</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	Not applicable.
<b>Water:</b>	Insoluble.
<b>Partition coefficient (n-octanol/water):</b> Not applicable.	
<b>Viscosity:</b>	Not applicable.
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
<b>Other information</b>	No further relevant information available.
<b>Additional information</b>	Melting Point: NA Freezing Point: NA Viscosity (and units): NA Odor Threshold (ppm): NA Evaporation Rate (relative to): NA Vapor Density (air =1): NA Vapor Pressure (units): NA pH (undiluted): NA pH (diluted): NA % dilution: NA VOC Content: NA % Volatile: NA PM Content: NA

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

##### Conditions to avoid (Thermal decomposition):

No decomposition if used and stored according to specifications.  
 The product itself is not combustible, but decomposition products of the binder which are formed during heating up are combustible

#### Possibility of hazardous reactions

No dangerous reactions known

#### Conditions to avoid

No further relevant information available.

#### Hazardous decomposition products:

##### Hydrogen

The binder can decompose at high temperatures (>250 °C) releasing products of combustion and pyrolysis of the organic binder components (such as phenol and phenol-related compounds)  
 In the refractory product a phenolic resin is used as binder. In the supplied form the phenolic resin has been cured which means the binder has polymerized under heat treatment to its solid form. Decomposition during heating: in the presence of sufficient air and heating rate, the gaseous products are mostly carbon dioxide and water. Under low or limited oxygen pressure decomposition during heat-up and early service may lead to fume formation which contains mixture of decomposition products of the cured polymer. After service, the binder will normally have been coked to a great extent and in that condition the material for disposal would be carbon and an inorganic oxide.

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## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

#### LD/LC50 values that are relevant for classification:

#### phenolic resin hardened

Inhalative LC50/4 h 316 mg/l (rat)

#### Primary irritant effect:

##### on the skin:

May cause dryness and irritation

##### on the eye:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### Allergic reaction:

No known allergic reaction.

#### Additional toxicological information:

Harmful

If this product has been in service at temperatures greater than 1000°C (1800°F) it may contain cristobalite, a form of crystalline silica.

IARC has classified crystalline silica, which includes cristobalite, as a group I carcinogen (known human carcinogen).

#### Carcinogenic categories

#### IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

#### NTP (National Toxicology Program)

None of the ingredients is listed.

#### OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

## 12 Ecological information

### Toxicity

#### Aquatic toxicity:

No further relevant information available.

#### Persistence and degradability

No further relevant information available.

#### Bioaccumulative potential

No further relevant information available.

#### Mobility in soil

No further relevant information available.

#### Results of PBT and vPvB assessment

##### PBT:

Not applicable.

##### vPvB:

Not applicable.

#### Other adverse effects

No further relevant information available.

## 13 Disposal considerations

### Waste treatment methods

#### Recommendation

Can be recycled at time of supply.

US EPA Waste Number &amp; Descriptions

#### A: General Product Information

This product, when discarded in its purchased form, is not considered a characteristic hazardous waste according to Federal regulations (40 CFR 261). You must test your waste using methods described in 40 CFR Part 261 to determine if it meets these or other applicable definitions of hazardous wastes.

#### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

#### Disposal Instructions

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

See Section 7 for Handling Procedures. See Section 8 for Personal

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Protective Equipment recommendations

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Uncleaned packagings:  
Recommendation:

Disposal must be made according to official regulations.

\* **14 Transport information**

UN-Number

DOT, ADR, ADN, IMDG, IATA

not applicable

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA

not applicable

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

not applicable

Packing group

DOT, ADR, IMDG, IATA

not applicable

Environmental hazards:

Not applicable.

Special precautions for user

Not applicable.

Danger code (Kemler):

Not applicable.

Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

Not dangerous according to available informations.

\* **15 Regulatory information**

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

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

WHMIS

D2A - Very toxic material causing other toxic effects

Additional

classification

according to Decree

on Hazardous

Materials

Possible decomposition products: phenol and different derivatives

Carcinogen categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

1344-28-1 aluminium oxide (non-fibrous form)

A4

1309-48-4 magnesium oxide

A4

7429-90-5 aluminium

A4

MAK (German Maximum Workplace Concentration)

1344-28-1 aluminium oxide (non-fibrous form)

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14808-60-7 quartz (SiO<sub>2</sub>)

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## NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

### Product related hazard informations:

**Risk phrases:** Harmful in contact with skin.  
Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Safety phrases:** Do not breathe dust.  
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Wear suitable protective clothing, gloves and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice immediately.  
If swallowed, seek medical advice immediately and show this container or label.  
In case of accident by inhalation: remove casualty to fresh air and keep at rest  
If swallowed, rinse mouth with water (only if the person is conscious)

**Special labeling of certain preparations:** If dust or fumes are present, wear NIOSH approved respirator.

### National regulations:

#### SARA 313 TOXIC CHEMICALS

7429-90-5 aluminium

#### SARA 302 EXTREMELY HAZARDOUS SUBSTANCES

No material listed in the components in Section 3 of this MSDS is on the SARA 302 list.

#### TSCA (Toxic Substances Control Act)

#### HMIS Classification

This substance or all the ingredients of this product are on the Chemical Substances Inventory of the Toxic Substances Control Act (TSCA Inventory). The presence on this list does not require any legal reporting

Class D - Division2 - Subdivision A  
Untested mixture containing a very toxic material

Class D - Division2 - Subdivision B  
Untested mixture containing a toxic material

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

## 16 Other information

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.

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\* Data compared to the previous version altered.

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