

**PRODUCT NAME:** ABRO Russian Silicone Gasket Maker  
Black 999  
**PRODUCT NUMBER/SIZE:** 912-AB-R

**Revision Date:** 01/05/2016

## SECTION 1 Identification of the Substance and of the Company/Undertaking

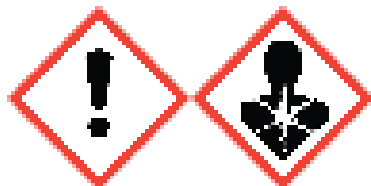
**MANUFACTURER'S NAME:** ABRO INDUSTRIES, INC.  
**ADDRESS:** 3580 Blackthorn Court  
South Bend, IN 46628  
USA  
**PRODUCT DESCRIPTION:** Silicone Sealant  
**COMPANY PHONE:** 574-232-8289  
**EMERGENCY 24-HR TELEPHONE:** Chemtrec: US/Canada 1-800-424-9300  
International +1-703-527-3887

## SECTION 2 Hazards Identification

### Classification:

Sensitization, skin (chapter 3.4), Cat. 1  
Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2

### Label Pictogram(s):



**Signal Word:** Warning

**Hazard Phrases:** May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.

**Precautionary Phrases:** Do not breathe dust/fume/gas/mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.

**Response:** IF ON SKIN: Wash with plenty of water. Get medical advice/attention if you feel unwell. If skin irritation or a rash occurs. Get medical advice/attention.

**Storage / Disposal:** Dispose of contents/container to.

## SECTION 3 Composition/Information on Ingredients

### Hazardous components

#### 1. Calcium carbonate (Natural)

Concentration  $\geq 35 - \leq 50$  % (Weight)

Other names / synonyms Agricultural limestone; limestone; Marble chips; Natural calcium carbonate

CAS no. 1317-65-3

#### 2. 2-Butanone, 2,2',2''-[O,O',O''-(ethenylsilyldiyl)trioxime]

Concentration  $\geq 0.1 - < 4$  % (Weight)

Other names / synonyms Vinyl tris (methylethylketoxime)

CAS no. 2224-33-1

#### 3. 2-Butanone, 2,2',2''-[O,O',O''-(methylsilyldiyl)trioxime]

Concentration  $\geq 0.1 - < 3$  % (Weight)

Other names / synonyms Methyl tris (methylethylketoxime)

CAS no. 22984-54-9

#### 4. Silica

Concentration  $\geq 1 - < 10$  % (Weight)

Other names / synonyms Siliceous earth, purified

CAS no. 7631-86-9

#### 5. 3-AMINOPROPYLTRIETHOXYSILANE

Concentration  $\geq 0.1 - < 1$  % (Weight)

Other names / synonyms (3-Aminopropyl)triethoxysilane; 1-Propanamine, 3-(triethoxysilyl); 3-Triethoxysilylpropylamine; APTES

EC no. 213-048-4

CAS no. 919-30-2

Index no. 612-108-00-0

#### 6. 1-Propanamine, 3-(trimethoxysilyl)-

Concentration  $\geq 0.1 - < 1$  % (Weight)

CAS no. 13822-56-5

## SECTION 4 First Aid Measures

### Description of Necessary First Aid Measures

**General Advice:** In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

<b>Eye contact:</b>	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
<b>Inhalation:</b>	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
<b>Skin contact:</b>	Wash with water and soap as a precaution. Get medical attention if symptoms occur.
<b>Ingestion:</b>	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
<b>Personal protective equipment for first-aid responders</b>	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

**Most important symptoms/effects (Acute and delayed)**

May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure if swallowed.

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

Notes to physician : Treat symptomatically and supportively.

**SECTION 5  
Fire Fighting Measures**

**Extinguishing media**

**Suitable extinguishing media:** Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

**Specific hazards arising from the chemical:** Exposure to combustion products may be a hazard to health.

**Special protective actions for fire-fighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**Hazardous Combustion Products:** Carbon oxides  
Metal oxides  
Silicon oxides  
Formaldehyde  
Nitrogen oxides (NO<sub>x</sub>)

**SECTION 6  
Accidental Release Measures**

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

Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

**Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so.

Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

**Reference to other sections**

Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

**SECTION 7  
Handling and Storage**

**Precautions for safe handling**

**Protective measures:** See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. Use only with adequate ventilation. Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from water. Protect from moisture. Take care to prevent spills, waste and minimize release to the environment.

**Conditions for safe storage, including any incompatibilities:** Keep in properly labeled containers. Store in accordance with the particular national regulations. Do not store with the following product types: Strong oxidizing agents

**SECTION 8  
Exposure Controls/Personal Protection**

**Control parameters**

<b>Ingredient name:</b>	<b>Exposure limits:</b>
Calcium Carbonate (CAS: 1317-65-3)	PEL (Inhalation): see PNOR (Cal/OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> Total Dust PEL (Inhalation): 15 mg/m3 (OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> PEL (Inhalation): 10 mg/m3 (Cal/OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> REL (Inhalation): 10 mg/m3 (NIOSH) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> Respirable Fraction PEL (Inhalation): 5 mg/m3 (OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> PEL (Inhalation): 5 mg/m3 (Cal/OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> REL (Inhalation): 5 mg/m3 (NIOSH) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> PEL (Inhalation): 10 mg/m3 (Cal/OSHA) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> REL (Inhalation): 10 mg/m3 (NIOSH) OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a> Respirable Fraction PEL (Inhalation): 5 mg/m3 (OSHA)

	<p>OSHA PEL (Inhalation): 5 mg/m<sup>3</sup> (Cal/OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          REL (Inhalation): 5 mg/m<sup>3</sup> (NIOSH)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a></p>
Marble (CAS: 1317-65-3)	<p>PEL (Inhalation): See PNOR (Cal/OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          Total Dust PEL (Inhalation): 15 mg/m<sup>3</sup> (OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          PEL (Inhalation): 10 mg/m<sup>3</sup> (Cal/OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          REL (Inhalation): 10 mg/m<sup>3</sup> (NIOSH)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          Respirable Fraction PEL (Inhalation): 5 mg/m<sup>3</sup> (OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          PEL (Inhalation): 5 mg/m<sup>3</sup> (Cal/OSHA)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a>          REL (Inhalation): 5 mg/m<sup>3</sup> (NIOSH)          OSHA Annotated Table Z-1, <a href="http://www.osha.gov">www.osha.gov</a></p>

**Appropriate engineering controls:**

Processing may form hazardous compounds (see section 10).  
 Ensure adequate ventilation, especially in confined areas.  
 Minimize workplace exposure concentrations.

**Individual protection measures**

**Eye/face protection:**

Wear the following personal protective equipment: Safety goggles

**Skin protection**

**Hand protection:**

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).  
 Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

**Body protection:**

Impervious gloves. Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

**Respiratory protection:**

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive

pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

## SECTION 9 Physical and Chemical Properties

### Appearance

<b>Physical State:</b>	Paste
<b>Color:</b>	Black
<b>Odor:</b>	Slight
<b>Odor Threshold:</b>	No data available.
<b>Ph:</b>	Not available.
<b>Melting Point/Freezing Point:</b>	No data available.
<b>Boiling Point:</b>	Not available.
<b>Flash Point:</b>	Not Applicable
<b>Evaporation Rate:</b>	Not applicable.
<b>Flammability (Solid, Gas):</b>	Not classified as a flammability hazard
<b>Lower And Upper Explosive (Flammable) Limits:</b>	No data available.
<b>Vapor Pressure:</b>	Not applicable.
<b>Vapor Density:</b>	No data available.
<b>Relative Density:</b>	1.41
<b>Solubility (ies):</b>	No data available.
<b>Partition Coefficient: N-Octanol/Water:</b>	No data available.
<b>Auto-Ignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	No data available.
<b>Viscosity:</b>	Not applicable.
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	The substance or mixture is not classified as oxidizing.

## SECTION 10 Stability and Reactivity

<b>Reactivity:</b>	Not classified as a reactivity hazard.
<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated temperatures.
<b>Conditions To Avoid:</b>	Exposure to moisture.
<b>Incompatible Materials:</b>	Oxidizing agents, water
<b>Hazardous Decomposition Products:</b>	Contact with water or humid air: Ethyl methyl ketoxime Thermal decomposition : Formaldehyde

## SECTION 11 Toxicological Information

**Information on Toxicological Effects**

**Acute Toxicity:**

Not classified based on available information.

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

**Ingredients:**

Calcium carbonate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 420

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal toxicity

Amorphous fumed silica:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Remarks: Information taken from reference works and the literature.

Vinyltri (methylethylketoxime) silane:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Remarks: Based on test data

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

Remarks: Based on test data

Methyltri(ethylmethylketoxime)silane:

Acute oral toxicity : LD50 (Rat): > 2,520 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Remarks: Based on test data

3-Aminopropyltriethoxysilane:

Acute oral toxicity : LD50 (Rat): 2,295 mg/kg

Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): > 1.49 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Based on test data

	Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on test data Not classified based on available information.
<b>Skin corrosion/irritation:</b>	
<b>Serious eye damage/irritation:</b>	Not classified based on available information.
<b>Respiratory or skin sensitization:</b>	Skin sensitization: May cause an allergic skin reaction. Respiratory sensitization: Not classified based on available information.
<b>Germ cell mutagenicity:</b>	Not classified based on available information.
<b>Carcinogenicity:</b>	Not classified based on available information.
<b>Reproductive toxicity:</b>	Not classified based on available information.
<b>Specific Target Organ Toxicity (Single Exposure):</b>	Not classified based on available information.
<b>Specific Target Organ Toxicity (Repeated Exposure):</b>	May cause damage to organs (Blood) through prolonged or repeated exposure if swallowed.  Methyltri(ethylmethylketoxime)silane: Routes of exposure: Ingestion Target Organs: Blood Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.  Vinyltri (methylethylketoxime) silane: Routes of exposure: Ingestion Target Organs: Blood Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.
<b>Aspiration Hazard:</b>	Not classified based on available information.
<b>Additional information:</b>	Information on likely routes of exposure Skin contact Ingestion Eye contact  Product: Remarks: During use of the material, small amounts of methylethylketoxime (MEKO) will be released. Rodents exposed to chronic MEKO inhalation throughout their lifetimes showed significant increases in liver tumor rates.



## SECTION 12 Ecological Information

**Toxicity:**

Calcium carbonate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): > 14 mg/l

Methyltri(ethylmethylketoxime)silane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia magna (Water flea)): > 120 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 94 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

3-Aminopropyltriethoxysilane:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 597 mg/l

Exposure time: 96 h

Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates

: EC50 (Daphnia sp.): 81 mg/l

Exposure time: 48 h

Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 8.8 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 3.1 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates

(Chronic toxicity): NOEC (Daphnia sp.): > 1 mg/l  
 Exposure time: 21 d  
 Toxicity to bacteria : EC50 (Pseudomonas putida): 67 mg/l  
 Exposure time: 16 h  
 Test Type: Growth inhibition  
 Method: DIN 38 412 Part 8

**Persistence And Degradability:**

Methyltri(ethylmethylketoxime)silane:  
 Biodegradability : Result: Not readily biodegradable.  
 Biodegradation: 14.5 %  
 Exposure time: 21 d  
 Method: OECD Test Guideline 302B  
 Remarks: Based on data from similar materials  
 3-Aminopropyltriethoxysilane:  
 Biodegradability : Result: Not readily biodegradable.  
 Biodegradation: 39 %  
 Method: OECD Test Guideline 301A  
 Stability in water : Degradation half life: 0.025 h (24.7 °C) pH: 7  
 Method: OECD Test Guideline 111

Vinyltri (methylethylketoxime) silane:  
 Biodegradability : Result: Not readily biodegradable.  
 Stability in water : Degradation half life: 1 s

**Bioaccumulative Potential:**

Methyltri(ethylmethylketoxime)silane:  
 Partition coefficient: noctanol/water: log Pow: 11.2  
 3-Aminopropyltriethoxysilane:  
 Partition coefficient: n- octanol/water : log Pow: -0.3

**Mobility In Soil:**

**Soil/Water Partition Coefficient (K<sub>oc</sub>):**  
**Other Adverse Effects:**

No data available  
 No data available

**SECTION 13  
 Disposal Considerations**

**Disposal Methods:**

Disposal of the product: Resource Conservation and Recovery Act (RCRA): This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form. Waste from residues: Dispose of in accordance with local regulations. Disposal of contaminated packaging: Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Waste treatment: No data Sewage disposal: No data

**SECTION 14  
 Transport Information**

**DOT (US):**

Not dangerous goods

**IMDG:**

Not dangerous goods

IATA:

Not dangerous goods

## SECTION 15 Regulatory Information

### Safety, health and environmental regulations specific for the product in question

#### New Jersey Right To Know Components

Common name: CALCIUM CARBONATE  
CAS number: 1317-65-3

#### Pennsylvania Right To Know Components

Chemical name: Limestone  
CAS number: 1317-65-3

#### Pennsylvania Right To Know Components

Chemical name: Silica  
CAS number: 7631-86-9

#### Chemical Safety Assessment

California Prop 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm. Methanol 67-56-1

The ingredients of this product are reported in the following inventories:

KECI : All ingredients listed, exempt or notified.

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

#### Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

#### HMIS Rating

Health	2
Flammability	1
Physical hazard	0
Personal protection	

#### NFPA Rating

Health hazard	2
Fire hazard	1
Reactivity hazard	0

**SECTION 16**  
**Other Information****Hazardous Material Information System (U.S.A.)****Health: 2****Flammability: 1****Physical Hazards: 0****National Fire Protection Association (U.S.A.)****Health: 2****Flammability: 1****Instability: 0**

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This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

**ABBREVIATIONS:**

NG="NOT GIVEN"

BT="BETWEEN"

&lt;="LESS THAN"

&gt;="GREATER THAN"

ND = Not Determined

NA = Not Applicable

**Full text of other abbreviations**

NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants -1910.1000

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limitsfor Air Contaminants

OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday

OSHA P0 / TWA : 8-hour time weighted average

OSHA Z-1 / TWA : 8-hour time weighted average

OSHA Z-3 / TWA : 8-hour time weighted average