



SAFETY DATA SHEET

Sodium Bicarbonate



SDS #: 144-55-8
Revision date: 2015-04-07
Format: NA
Version 3.02

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Sodium Bicarbonate, Sofstrip Blast Media

Other means of identification

Product Code(s) 144-55-8

Synonyms Baking Soda, Bicarbonate of Soda

Recommended use of the chemical and restrictions on use

Recommended Use: Leavening agent, cleaner ingredient, bath salt ingredient, water softener, diaper rinse ingredient, feed additive

Restrictions on Use: No information available

Manufacturer Address

APE Companies
6319 Brookhille Dr.
Houston, TX 77087
Tel: 713.797.0054
www.APEabrasives.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

The product contains no substances which at their given concentration, are considered to be hazardous to health

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • Garnet Abrasives – SJ16, SJ30x60, SJ36, SJ50, SJ60, SJ80 & SJ120

Synonyms • Almandine and Pyrope Garnet

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

Relevant identified use(s) • Industrial Abrasives, Blast Cleaning Abrasives

1.3 Details of the supplier of the safety data sheet

Manufacturer • APE Companies- Sharpjet Division
6319 Brookhill Drive
Houston, TX 77087
United States
www.APEabrasives.com

Telephone (General) • (800) 528-7086

Telephone (General) • (713) 797-0054

1.4 Emergency telephone number

Manufacturer • (713) 797-0054

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) required

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this material is not considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Carcinogenicity 1A - H350

2.2 Label elements

OSHA HCS 2012

DANGER



Hazard statements • May cause cancer. - H350

Precautionary statements

Prevention • Obtain special instructions before use. - P201
Do not handle until all safety precautions have been read and understood. - P202
Wear protective gloves/protective clothing/eye protection/face protection. - P280

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

Storage/Disposal • Store locked up. - P405
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS • Other Toxic Effects - D2A

2.2 Label elements

WHMIS



• Other Toxic Effects - D2A

2.3 Other hazards

WHMIS • In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

• Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Almandine-Ferric Aluminum Silicate	CAS:1302-62-1	94% TO 99.6%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA
Quartz	CAS:14808-60-7 EC Number:238-878-4	< 0.65%	NDA	EU DSD/DPD: Self Classified: T; R48/20 EU CLP: Self Classified: STOT RE 1, H372 OSHA HCS 2012: Carc. 1A; STOT RE 1 (Lungs, Inhl)	NDA
Iron	CAS:7439-89-6 EC Number:231-096-4	0.01% TO 0.2%	Ingestion/Oral-Rat LD50 • 750 mg/kg	EU DSD/DPD: Self Classified: Xn R22 Xi, R37 Xn R48/20 EU CLP: Self Classified: STOT SE 3: Resp. Irrit., H335; STOT RE 2 (Lungs, Liver), H373; Acute Tox. 4 (oral), H302 OSHA HCS 2012: STOT SE 3: Resp. Irrit.; STOT RE 2 (Lungs, Liver); Acute Tox 4 (oral)	NDA
Hornblende	CAS:12178-42-6	0.01% TO 0.2%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA
Feldspars	CAS:68476-25-5 EC Number:270-666-7	0.01% TO 0.2%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention immediately.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media**
- In case of fire use media as appropriate for surrounding fire.
- Unsuitable Extinguishing Media**
- No data available.

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** • None
- Hazardous Combustion Products** • No data available.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Do not walk through spilled material. Wear appropriate Personal Protective Equipment (PPE)
- Emergency Procedures** • As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures** • Avoid generating dust. Sweep or vacuum up material for disposal or recovery.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling** • No special precautions necessary for normal handling of the material. Use only with adequate ventilation. Do not breathe dust. Wear appropriate personal protective equipment, avoid direct contact.

7.2 Conditions for safe storage, including any incompatibilities

- Storage** • No special precautions necessary for normal storage of the material. Keep container/package tightly closed and in a well-ventilated place. Store locked up.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Argentina	Austria	Belgium	Chile
Quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA [CMP] (respirable fraction)	Not established	0.1 mg/m ³ TWA (alveolar dust)	0.08 mg/m ³ TWA LPP (respirable fraction)
	MAKs	Not established	Not established	0.15 mg/m ³ TWA [TMW] (yearly average, valid till 12/31/2013, alveolar dust, respirable fraction)	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	China	Czech Republic	Denmark	Finland	France
Quartz (14808-60-7)	STELs	2 mg/m ³ STEL (10%-50% free SiO ₂)	Not established	Not established	Not established	Not established

		total dust); 1.4 mg/m3 STEL (50%-80% free SiO2, total dust); 1 mg/m3 STEL (containing >80% free SiO2, total dust); 1.4 mg/m3 STEL (10%-50% free SiO2, respirable dust); 0.6 mg/m3 STEL (50%-80% free SiO2, respirable dust); 0.4 mg/m3 STEL (containing >80% free SiO2, respirable dust)				
	TWAs	0.7 mg/m3 TWA (containing 50-80% free SiO2, total dust); 0.3 mg/m3 TWA (containing 50-80% free SiO2, respirable dust); 1 mg/m3 TWA (containing 10-50% free SiO2, total dust); 0.7 mg/m3 TWA (containing 10-50% free SiO2, respirable dust); 0.5 mg/m3 TWA (containing >80% free SiO2, total dust); 0.2 mg/m3 TWA (containing >80% free SiO2, respirable dust)	0.1 mg/m3 TWA (dust)	0.3 mg/m3 TWA (total); 0.1 mg/m3 TWA (respirable)	0.05 mg/m3 TWA (respirable, listed under Silicon dioxide, crystalline)	0.1 mg/m3 TWA [VME] (restrictive limit, alveolar fraction)

Exposure Limits/Guidelines (Con't.)

	Result	Indonesia	Korea	Mexico	Netherlands	New Zealand
Iron (7439-89-6)	TWAs	1 mg/m3 TWA	Not established	Not established	Not established	Not established
Quartz (14808-60-7)	TWAs	0.1 mg/m3 TWA (respirable particulate)	0.05 mg/m3 TWA (respirable fraction, Serial No. 251)	0.1 mg/m3 TWA LMPE-PPT (respirable fraction)	0.075 mg/m3 TWA (respirable dust, listed under Silicium dioxide)	0.2 mg/m3 TWA (respirable dust)

Exposure Limits/Guidelines (Con't.)

	Result	NIOSH	Norway	Poland	Russia	Slovak Republic
Iron (7439-89-6)	TWAs	Not established	Not established	Not established	10 mg/m3 TWA (aerosol)	6.0 mg/m3 TWA (total aerosol)
Quartz (14808-60-7)	TWAs	0.05 mg/m3 TWA (respirable dust)	0.3 mg/m3 TWA (Dust containing .alpha.-Quartz, Cristobalite and/or Tridymite is evaluated by summation formula, total dust); 0.1 mg/m3 TWA (Dust containing .alpha.-Quartz, Cristobalite and/or Tridymite is evaluated by summation formula, respirable dust)	2 mg/m3 TWA [NDS] (>50% free crystalline silica, total inhalable dust); 0.3 mg/m3 TWA [NDS] (>50% free crystalline silica, respirable dust); 4.0 mg/m3 TWA [NDS] (2% to 50% free crystalline silica, total inhalable dust); 1.0 mg/m3 TWA [NDS] (2% to 50% free crystalline silica, respirable dust)	1 mg/m3 TWA (disintegration aerosol, listed under Silicon dioxide amorphous and vitreous)	0.1 mg/m3 TWA (in Cristobalite or Tridymite, total aerosol) 0.1 mg/m3 TWA
	STELs	Not established	Not established	Not established	3 mg/m3 STEL (disintegration aerosol, listed under	0.5 mg/m3 STEL

					Amorphous and crystalline silicon dioxide)	
Exposure Limits/Guidelines (Con't.)						
	Result	Spain	Sweden	Switzerland	United Kingdom	Venezuela
Quartz (14808-60-7)	MAKs	Not established	Not established	0.15 mg/m3 TWA [MAK] (respirable)	Not established	Not established
	STELs	Not established	Not established	Not established	0.3 mg/m3 STEL (calculated, respirable)	Not established
	TWAs	0.1 mg/m3 TWA [VLA-ED] (reclassified IARC group 2A to group 1, respirable fraction)	0.1 mg/m3 LLV (respirable dust)	Not established	0.1 mg/m3 TWA (respirable)	0.05 mg/m3 TWA [CAP]

Exposure Control Notations

Switzerland

•Quartz (14808-60-7): **Carcinogens:** (Category C1 carcinogen) | **Developmental Risk Groups:** (Developmental Risk Group C (listed under Silicon dioxide, crystalline))

Norway

•Quartz (14808-60-7): **Carcinogens:** (Carcinogen)

Argentina

•Quartz (14808-60-7): **Carcinogens:** (A2 - Suspected human carcinogen)

Venezuela

•Quartz (14808-60-7): **Ceilings:** (A2 - Alleged Carcinogen in Humans)

Germany DFG

•Quartz (14808-60-7): **Carcinogens:** (Category 1 (causes cancer in man, alveola fraction))

Exposure Limits Supplemental

Spain

•Quartz (14808-60-7): **Under Review:** (0.05 mg/m3 VLA-ED; reclassified by IARC from group 2A possible human carcinogen to group 1 human carcinogen; (respirable fraction))

8.2 Exposure controls

Engineering

Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear protective clothing and gloves.

Environmental

Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

LLV = Limit Level Value is the exposure limit for 8-hour work day

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

MAC = Maximum Allowable Concentration

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

STEL = Short Term Exposure Limits are based on 15-minute exposures

STEV = Short Term Exposure Value

TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties**9.1 Information on Physical and Chemical Properties**

Material Description			
Physical Form	Solid	Appearance/Description	Reddish brown to pink grains with no odor.
Color	Reddish brown to pink.	Odor	Odorless
Particulate Size	Varies upon customer demand	Odor Threshold	Data lacking
General Properties			
Boiling Point	Data lacking	Melting Point	1315 C(2399 F)
Decomposition Temperature	> 750 C(> 1382 F)	pH	Not relevant
Specific Gravity/Relative Density	4.1 Water=1	Bulk Density	2.4 g/cm ³
Water Solubility	Insoluble	Viscosity	Data lacking
Explosive Properties	Non-explosive	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Not relevant	Vapor Density	Not relevant
Evaporation Rate	Not relevant	VOC (Wt.)	Not relevant
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Data lacking
Flammability (solid, gas)	Non-flammable		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity**10.1 Reactivity**

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- No data available.

10.5 Incompatible materials

- None known.

10.6 Hazardous decomposition products

- None known.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

		Components
Iron (0.01% TO 0.2%)	7439-89-6	Acute Toxicity: Ingestion/Oral-Rat LD50 • 750 mg/kg; Blood:Changes in serum composition (e.g., TP, bilirubin cholesterol); Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels:Transaminases
Quartz (< 0.65%)	14808-60-7	Acute Toxicity: Inhalation-Human TClO • 16 mppcf 8 Hour(s) 17.9 Year(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Cough; Lungs, Thorax, or Respiration:Dyspnea;</i> Inhalation-Rat TClO • 200 mg/kg; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Other changes; Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Fe;</i> Multi-dose Toxicity: Inhalation-Hamster TClO • 3 mg/m ³ 6 Hour(s) 78 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis (interstitial); Lungs, Thorax, or Respiration:Changes in lung weight;</i> Inhalation-Rat TClO • 6.2 mg/m ³ 6 Hour(s) 6 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Other changes; Blood:Changes in spleen; Immunological Including Allergic:Increase in cellular immune response;</i> Inhalation-Rat TClO • 80 mg/m ³ 26 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Blood:Changes in spleen; Immunological Including Allergic:Decrease in cellular immune response;</i> Tumorigen / Carcinogen: Inhalation-Rat TClO • 50 mg/m ³ 6 Hour(s) 71 Week(s)-Intermittent; <i>Tumorigenic:Carcinogenic by RTECS criteria; Liver:Tumors</i>

GHS Properties	Classification
Acute toxicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Aspiration Hazard	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Carcinogenicity	EU/CLP•Data lacking OSHA HCS 2012•Carcinogenicity 1A
Germ Cell Mutagenicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin corrosion/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-RE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-SE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Toxicity for Reproduction	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Respiratory sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Serious eye damage/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)

- Exposure to dust may cause irritation.

Chronic (Delayed)

- Inhalation of respirable dusts containing crystalline silica may cause lung injury or disease including silicosis and/or cancer.

Skin

Acute (Immediate)

- May cause abrasions.

Chronic (Delayed)

- No data available

Eye

Acute (Immediate)

- Exposure to dust may cause irritation.

Chronic (Delayed)

- No data available

Ingestion

Acute (Immediate)

- No known effects, however ingestion not recommended.

Chronic (Delayed)

- No data available

Carcinogenic Effects

- May cause cancer. This product contains crystalline silica as cristobalite and/or quartz. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans (IARC Group I). Crystalline Silica is classified as a Known Carcinogen according to NTP.

Carcinogenic Effects			
	CAS	IARC	NTP
Quartz	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen

Key to abbreviations

LD = Lethal Dose

TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user • None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Data lacking.

Section 15 - Regulatory Information

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

SARA Hazard Classifications

• Chronic

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Almandine-Ferric Aluminum Silicate	1302-62-1	No	No	No	No	No
Feldspars	68476-25-5	No	Yes	Yes	Yes	No
Hornblende	12178-42-6	No	No	No	No	No
Iron	7439-89-6	Yes	No	Yes	Yes	No
Quartz	14808-60-7	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	Korea KECL	New Zealand	TSCA
Almandine-Ferric Aluminum Silicate	1302-62-1	No	Yes	No
Feldspars	68476-25-5	Yes	Yes	Yes
Hornblende	12178-42-6	No	No	No
Iron	7439-89-6	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes

Belgium

Labor

Belgium - Substances and Preparations - Carcinogens and Mutagens

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Belgium - Substances and Preparations - Suspected Carcinogens and Mutagens

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	
•Hornblende	12178-42-6	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Iron	7439-89-6	Uncontrolled product according to WHMIS classification criteria
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS Division website.)
•Hornblende	12178-42-6	Not Listed

Canada - WHMIS - Ingredient Disclosure List

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	1 %
•Hornblende	12178-42-6	Not Listed

Environment

Canada - CEPA - Priority Substances List

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

China

Environment

China - Ozone Depleting Substances - First Schedule

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

China - Ozone Depleting Substances - Second Schedule

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

China - Ozone Depleting Substances - Third Schedule

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

China - Annex I & II - Controlled Chemicals Lists

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed

•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
China - Catalog of Hypertoxic Chemicals		
•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
China - Dangerous Goods List		
•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
China - Export Control List - Part I Chemicals		
•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Denmark

Environment

Denmark - Advisory List for Self-Classification of Dangerous Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Denmark - List of Undesirable Substances - Product Groups/Function

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Denmark - List of Undesirable Substances - Reason for Selection

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Europe

Environment

EU - Air Pollution (2001/379/EC) - Heavy Metal Pollutants

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

EU - Substances Depleting the Ozone layer (1005/2009) - Annex I Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

EU - Export and Import Restrictions (689/2008) - Chemicals and Articles Subject to Export Ban

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed

•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
EU - Export and Import Restrictions (689/2008) - Chemicals Qualifying for PIC Notification		
•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
EU - Water Framework Directive (2000/60/EC) - List of Priority Substances - Annex X		
•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany

Labor

Germany - Immission Control - Qualifying Quantities for Major Accident Prevention

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - Immission Control - Qualifying Quantities for Safety Reporting

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TRGS 505 - Specific Lead Regulations

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TRGS 511 - Specific Ammonium Nitrate Regulations

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Environment

Germany - TA Luft - Types and Classes

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TA Luft - Emission Limits for Carcinogenic Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TA Luft - Emission Limits for Fibers

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Dusts

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Gases

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - TA Luft - Emission Limits for Organic Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

•Iron	7439-89-6	ID Number 748, not considered hazardous to water
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	ID Number 849, not considered hazardous to water
•Hornblende	12178-42-6	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	ID Number 849, not considered hazardous to water
•Hornblende	12178-42-6	Not Listed

Other**Germany - Specifically Regulated Chemicals in TRGS**

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Germany - GUT - Substances Banned from Carpeting

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece**Labor****Greece - Substances Prohibited from Use in the Workplace**

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed

•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Environment

Greece - Air Quality Guidelines - 1 Hour

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Air Quality Guidelines - 24 Hour

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Air Quality Guidelines - Annual

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Surface Water Quality Standards

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Water Quality - Industrial Emission Limit Values (ELVs) - Daily

•Iron	7439-89-6	15.0 mg/L ELV (total, lakes); 15.0 mg/L ELV (total, rivers); 20.0 mg/L ELV (total, coastal waters)
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Water Quality - Industrial Emission Limit Values (ELVs) - Monthly

•Iron	7439-89-6	7.5 mg/L ELV (total, lakes); 7.5 mg/L ELV (total, rivers); 10.0 mg/L ELV (total, coastal waters)
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

Greece - Major Accidents - Threshold Quantities for Accident Prevention

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Major Accidents - Threshold Quantities for Safety Reporting

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Greece - Marketing and Use Restrictions - Azodyes

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed

•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Indonesia

Environment

Indonesia - Hazardous Waste from Non-Specific Sources

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Indonesia - Hazardous Waste from Specific Sources

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Indonesia - Hazardous Waste from Overdue Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Japan

Labor

Japan - ISHL Dangerous Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Japan - ISHL Designated Carcinogens

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

Japan - Drinking Water Quality Standards - Supplied Water Quality Standard Values

•Iron	7439-89-6	0.3 mg/L (listed under Iron and its compounds)
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Japan - Drinking Water Quality Standards - Quality Control Guideline Values

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Japan - Fire Service Law - Hazardous Materials

•Iron	7439-89-6	Group 2 - Flammable solids III (powder, listed under Iron powder)
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Korea

Labor

Korea - ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Korea - ISHA - Harmful Substances Requiring Permission

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Environment

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Observational Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Prohibited Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Restricted Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Toxic Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Mexico

Environment

Mexico - Ecological Criteria for Water Quality - Agricultural Irrigation

•Iron	7439-89-6	5.0 mg/L
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Mexico - Ecological Criteria for Water Quality - Drinking Water Supply Source

•Iron	7439-89-6	0.3 mg/L
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed

•Hornblende	12178-42-6	Not Listed
Mexico - Ecological Criteria for Water Quality - Protection of Fresh Water Aquatic Life		
•Iron	7439-89-6	1.0 mg/L
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed
Mexico - Ecological Criteria for Water Quality - Protection of Marine Water Aquatic Life		
•Iron	7439-89-6	0.05 mg/L
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Netherlands

Other

Netherlands - List of Carcinogens

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	(respirable dust, crystalline)
•Hornblende	12178-42-6	Not Listed

Netherlands - Major Accidents - Qualifying Quantities for Accident Prevention

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Netherlands - Major Accidents - Qualifying Quantities for Safety Reporting

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

New Zealand

Other

New Zealand - Ozone Depleting Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Norway

Environment

Norway - Restricted Substances and Preparations

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Russia

Labor

Russia - Limiting Quantities of Hazardous Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Slovak Republic

Labor

Slovak Republic - Selected Chemical Agents and Usages Which are Not Permitted

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Environment

Slovak Republic - Waste Regulations - List of Harmful Substances

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Taiwan

Environment

Taiwan - Effluent Standards - Maximum Effluent Limitations

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Taiwan - Toxic Chemical Substances Control Act - Threshold Regulated Quantities

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Taiwan - Toxic Chemical Substances Control Act - Classification and Control Levels

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

United Kingdom

Environment

United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Other

United Kingdom - Major Accidents - International Toxic Equivalent Factors (ITEF)

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

United Kingdom - Major Accidents - Qualifying Quantities for Accident Prevention

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

United Kingdom - Major Accidents - Qualifying Quantities for Safety Reporting

•Iron	7439-89-6	Not Listed
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•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed
•Hornblende	12178-42-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•Iron	7439-89-6	Not Listed
•Feldspars	68476-25-5	Not Listed
•Almandine-Ferric Aluminum Silicate	1302-62-1	Not Listed
•Quartz	14808-60-7	Not Listed

•Hornblende 12178-42-6 Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 carcinogen, initial date 10/1/88 (airborne particles of respirable size)
 •Hornblende 12178-42-6 Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 Not Listed
 •Hornblende 12178-42-6 Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 Not Listed
 •Hornblende 12178-42-6 Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 Not Listed
 •Hornblende 12178-42-6 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 Not Listed
 •Hornblende 12178-42-6 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•Iron 7439-89-6 Not Listed
 •Feldspars 68476-25-5 Not Listed
 •Almandine-Ferric Aluminum Silicate 1302-62-1 Not Listed
 •Quartz 14808-60-7 Not Listed
 •Hornblende 12178-42-6 Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H335 - May cause respiratory irritation
- H302 - Harmful if swallowed
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- R22 - Harmful if swallowed.
- R37 - Irritating to respiratory system.
- R48/20 - Harmful: danger of serious damage to health by prolonged exposure through

inhalation.

Last Revision Date • 19/August/2014
Preparation Date • 19/August/2014

Key to abbreviations

NDA = No Data Available

**Disclaimer/Statement
of Liability**

- The information in this MSDS was obtained from sources that are believed to be reliable; however, the information is provided without any representation or warranty, express or implied, regarding its accuracy or correctness. The conditions or methods of handling, storage, use, and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.
-

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Product dust may cause mechanical eye irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTSFormula NaHCO₃

Chemical name	CAS-No	Weight %
Sodium Bicarbonate	144-55-8	100

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
Skin Contact	Wash skin with soap and water. Get medical attention if irritation develops and persists.
Inhalation	Remove person to fresh air. If signs/symptoms continue, get medical attention.
Ingestion	Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Most important symptoms and effects, both acute and delayed	None known.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific Hazards Arising from the Chemical	None in particular. Not flammable.
Hazardous Combustion Products	None.
<u>Explosion data</u>	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid dust formation.
Other	For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions	Prevent material from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information for more detailed information.
Methods for Containment	Vacuum or shovel waste into a drum and label contents for disposal.
Methods for cleaning up	Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling	Use air conveying/mechanical systems for bulk transfer to storage. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected.
Storage	Keep in a dry place. Keep away from incompatible products (acids). Do not store with strong smelling materials.
Incompatible products	Except under controlled conditions: Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies Local nuisance dust standards apply

Appropriate engineering controls

Engineering measures	Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear suitable protective clothing. Protective shoes or boots.
Hand Protection	Protective gloves
Respiratory Protection	In case of inadequate ventilation wear respiratory protection.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.
General information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Crystalline, Powder
Physical State	Solid
Color	White
Odor	odorless
Odor threshold	Not applicable
pH	8.3 (1% solution) @ 25 °C
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	Not applicable
Evaporation Rate	No information available

Sodium Bicarbonate

SDS #: 144-55-8
Revision date: 2015-04-07
Version 3.02

Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	Negligible
Vapor density	No information available
Density	No information available
Specific gravity	2.22
Water solubility	96 g/L @ 20 °C
Solubility in other solvents	No information available
Partition coefficient	Not applicable
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	Non-oxidizing
Molecular weight	84.01
Bulk density	66 lb/cu ft

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions.
Chemical Stability	Stable.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat. Humid air. Avoid contact with acids except under controlled conditions. Keep away from strong odor.
Incompatible materials	Except under controlled conditions: Acids.
Hazardous Decomposition Products	Reacts with acids to release carbon dioxide gas and heat.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	> 5,000 mg/kg (rat)
LD50 Dermal	No information available
LC50 Inhalation	> 4.74 mg/L (rat) 4.5 hr
Eye Contact	Non-irritating.
Skin Contact	Non-irritating
Sensitization	Non-sensitizing.

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	No known effect.
Mutagenicity	Not mutagenic.
Carcinogenicity	Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).
Reproductive toxicity	No information available.
STOT - single exposure	No information available.

Sodium Bicarbonate

SDS #: 144-55-8
Revision date: 2015-04-07
Version 3.02

STOT - repeated exposure No information available.
Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Sodium Bicarbonate (144-55-8)				
Active Ingredient(s)	Duration	Species	Value	Units
Sodium bicarbonate	96 hr	Lepomis macrochirus (Bluefill sunfish)	NOEC: 5,200 LC50: 7,100	mg/L
Sodium bicarbonate	48 hr immobilisation test	Daphnia magna	NOEC: 3,100 EC50: 4,100	mg/L
Sodium bicarbonate	96 hr	Oncorhynchus mykiss (rainbow trout)	NOEC: 2,300 LC50: 7,700	mg/L

Persistence and degradability Biodegradability does not pertain to inorganic substances.

Bioaccumulation Does not bioaccumulate.

Mobility Dissociates into ions.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Sodium Bicarbonate

SDS # : 144-55-8
Revision date: 2015-04-07
Version 3.02

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Sodium Bicarbonate 144-55-8 (100)	X	X	X	X	X	X	X	X

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	Health Hazards 0	Flammability 0	Instability 0	Special Hazards -
HMIS	Health Hazards 0	Flammability 0	Physical hazard 0	Personal Protection X

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Product Certifications

Products labeled USP meet the chemical testing specifications defined in the USP and Food Chemicals Codex (FCC), 8th Edition and are manufactured under GMP.

The MUL (maximum use level) for sodium bicarbonate is 100 mg/L under NSF/ANSI Standard 60.



Revision date: 2015-04-07
Revision note Minor change

Sodium Bicarbonate

SDS # : 144-55-8
Revision date: 2015-04-07
Version 3.02

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End of Safety Data Sheet