

Material Safety Data Sheet

DEXPAN (Non-Explosive Demolition Agent)



1. Product and company identification

Product name	: DEXPAN (Non-Explosive Demolition Agent)
Material uses	: For controlled demolition, reinforced concrete cutting, rock breaking, quarrying, stone dimension, mining, excavating...
Supplier/Manufacturer	: Archer Co. USA, Inc. 1665 Futurity Dr. Sunland Park NM. 88063 Phone # 575-874-9188 Fax: # 575-874-9108 Toll Free: 866-272-4378
MSDS authored by	: KMK Regulatory Services inc.
In case of emergency	: +1-575-874-9188
Product type	: Powder.

2. Hazards identification

Emergency overview

Color	: Gray.
Physical state	: Solid. [Powder.]
Odor	: Odorless.
Signal word	: WARNING!
Hazard statements	: CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.
Precautions	: Avoid breathing dust. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	: Slightly irritating to the respiratory system.
Ingestion	: No known significant effects or critical hazards.
Skin	: Irritating to skin.
Eyes	: Irritating to eyes.

Potential chronic health effects

Chronic effects	: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	: No specific data.

2. Hazards identification

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : None known.

See toxicological information (section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Calcium hydroxide	1305-62-0	60 - 100
Silica, vitreous	60676-86-0	5 - 10
Diiiron trioxide	1309-37-1	1 - 5
Aluminum oxide	1344-28-1	1 - 5

Canada

Name	CAS number	%
Calcium hydroxide	1305-62-0	60 - 100
Silica, vitreous	60676-86-0	5 - 10
Diiiron trioxide	1309-37-1	1 - 5
Aluminum oxide	1344-28-1	1 - 5

Mexico

Name	CAS number	UN number	%	IDLH	Classification			
					H	F	R	Special
Calcium hydroxide	1305-62-0	Not regulated.	60 - 100	-	1	0	0	
Diiiron trioxide	1309-37-1	Not regulated.	1 - 5	2500 mg/m ³	1	0	0	
Silica, vitreous	60676-86-0	Not regulated.	5 - 10	-	0	0	0	
Aluminum oxide	1344-28-1	Not regulated.	1 - 5	-	0	0	0	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Notes to physician : No specific treatment. Treat symptomatically.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Hazardous decomposition products : No specific data.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Calcium hydroxide	OSHA PEL (United States, 11/2006). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust ACGIH TLV (United States, 1/2009). TWA: 5 mg/m ³ 8 hour(s). NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hour(s). OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hour(s).
Silica, vitreous	OSHA PEL 1989 (United States, 3/1989). TWA: 0.1 mg/m ³ 8 hour(s). Form: Respirable dust

8. Exposure controls/personal protection

Diiron trioxide	<p>NIOSH REL (United States, 6/2009). TWA: 5 mg/m³, (as Fe) 10 hour(s). Form: Dust and fumes</p> <p>ACGIH TLV (United States, 1/2009). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 8 hour(s). Form: Total dust STEL: 10 ppm, (as Fe) 15 minute(s). Form: Total particulates</p> <p>OSHA PEL (United States, 11/2006). TWA: 10 mg/m³ 8 hour(s).</p>
Aluminum oxide	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m³ 8 hour(s). Form: Dust TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction</p> <p>NIOSH REL (United States, 6/2009). TWA: 5 mg/m³, (as Al) 10 hour(s). Form: PYRO POWDERS AND WELDING FUMES</p> <p>OSHA PEL (United States, 11/2006). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust</p> <p>ACGIH TLV (United States). TWA: 1 mg/m³, (Al) 8 hour(s). Form: Respirable fraction</p>

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations	
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other		
Calcium hydroxide	US ACGIH 1/2009	-	5	-	-	-	-	-	-	-	[3]	
	AB 4/2009	-	5	-	-	-	-	-	-	-		
	BC 9/2009	-	5	-	-	-	-	-	-	-		
	ON 8/2008	-	5	-	-	-	-	-	-	-		
	QC 6/2008	-	5	-	-	-	-	-	-	-		
Silica, vitreous	ON 8/2008	-	0.1	-	-	-	-	-	-	-	[a]	
	QC 6/2008	-	0.1	-	-	-	-	-	-	-	[b]	
Diiron trioxide	US ACGIH 1/2009	-	5	-	-	-	-	-	-	-	[c]	
	Diiron trioxide, as Fe	AB 4/2009	-	5	-	-	-	-	-	-	-	[d]
BC 9/2009		-	5	-	-	-	-	-	-	-	[e]	
		-	5	-	-	10	-	-	-	-	[f]	
		-	3	-	-	-	-	-	-	-	[g]	
		-	10	-	-	-	-	-	-	-	[h]	
Diiron trioxide	ON 8/2008	-	5	-	-	-	-	-	-	-	[a]	
		-	10	-	-	-	-	-	-	-	[i]	
Diiron trioxide, as Fe	QC 6/2008	-	5	-	-	-	-	-	-	-	[j]	
		-	10	-	-	-	-	-	-	-	[c]	
Aluminum oxide, Al	US ACGIH	-	1	-	-	-	-	-	-	-	[c]	
		Aluminum oxide	AB 4/2009	-	10	-	-	-	-	-	-	
			ON 8/2008	-	10	-	-	-	-	-	-	[i]
Aluminum oxide, as Al	QC 6/2008	-	10	-	-	-	-	-	-	[k]		

Form: [a]Respirable particulate [b]Respirable dust [c]Respirable fraction [d]Dust and fumes [e]Dust [f]Fume [g]Total dust [h]Al

Mexico

Ingredient	Exposure limits
Calcium hydroxide	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 5 mg/m ³ 8 hour(s).
Silica, vitreous	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 0.1 mg/m ³ 8 hour(s).
Diiron trioxide	NOM-010-STPS (Mexico, 9/2000). LMPE-CT: 10 mg/m ³ , (as Fe) 15 minute(s). LMPE-PPT: 5 mg/m ³ , (as Fe) 8 hour(s).
Aluminum oxide	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 10 mg/m ³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

8. Exposure controls/personal protection

Engineering measures	: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.
Hygiene measures	: Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Respiratory	: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Use appropriate NIOSH approved dust respirator if PEL/TLV may be exceeded.
Hands	: Use gloves appropriate for work or task being performed. Recommended: Impervious gloves.
Eyes	: Safety eyewear should be used when there is a likelihood of exposure. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: Safety glasses with side shields.
Skin	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Cotton-blend coveralls.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state	: Solid. [Powder.]
Color	: Gray.
Odor	: Odorless.
Melting/freezing point	: 1000°C (1832°F)
Specific gravity	: 3.2 g/cm ³
Relative density	: 3.2
VOC	: 0 % (w/w)
Solubility	: Very slightly soluble in the following materials: cold water.

10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials, acids and moisture.
Hazardous decomposition products	: No specific data.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Calcium hydroxide	LD50 Oral	Rat	7340 mg/kg	-

Chronic toxicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Silica, vitreous	-	3	-	-	-	-
Diiron trioxide	A4	3	-	-	-	-
Aluminum oxide	A4	-	-	-	-	-

12. Ecological information

Environmental effects : Not established

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Calcium hydroxide	Acute LC50 33884.4 ug/L Fresh water Chronic NOEC 56 mg/L Marine water	Fish - Clarias gariepinus - Fingerling Fish - Poecilia reticulata - Young - 3 weeks	96 hours 96 hours

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

DOT/TDG/MXT/IMDG/IATA : Not regulated.

15. Regulatory information

United States

HCS Classification : Irritating material

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Silica, vitreous; Diiron trioxide; Aluminum oxide; Calcium hydroxide

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Silica, vitreous: Immediate (acute) health hazard; Diiron trioxide: Delayed (chronic) health hazard; Aluminum oxide: Immediate (acute) health hazard; Calcium hydroxide: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

15. Regulatory information

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Aluminum oxide	1344-28-1	1 - 5
Supplier notification	Aluminum oxide	1344-28-1	1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

- Connecticut Carcinogen Reporting:** None of the components are listed.
- Connecticut Hazardous Material Survey:** None of the components are listed.
- Florida substances:** None of the components are listed.
- Illinois Chemical Safety Act:** None of the components are listed.
- Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.
- Louisiana Reporting:** None of the components are listed.
- Louisiana Spill:** None of the components are listed.
- Massachusetts Spill:** None of the components are listed.
- Massachusetts Substances:** The following components are listed: Calcium hydroxide; Silica, vitreous; Diiron trioxide; Aluminum oxide
- Michigan Critical Material:** None of the components are listed.
- Minnesota Hazardous Substances:** None of the components are listed.
- New Jersey Hazardous Substances:** The following components are listed: Calcium hydroxide; Silica, vitreous; Diiron trioxide; Aluminum oxide
- New Jersey Spill:** None of the components are listed.
- New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.
- New York Acutely Hazardous Substances:** None of the components are listed.
- New York Toxic Chemical Release Reporting:** None of the components are listed.
- Pennsylvania RTK Hazardous Substances:** The following components are listed: Calcium hydroxide; Diiron trioxide; Aluminum oxide
- Rhode Island Hazardous Substances:** None of the components are listed.

Canada

WHMIS (Canada)

- : Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

- : **CEPA Toxic substances:** None of the components are listed.
- Canadian ARET:** None of the components are listed.
- Canadian NPRI:** The following components are listed: Aluminum oxide
- Alberta Designated Substances:** None of the components are listed.
- Ontario Designated Substances:** None of the components are listed.
- Quebec Designated Substances:** None of the components are listed.

Canada inventory

- : All components are listed or exempted.

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

15 . Regulatory information

Mexico

Classification :



International regulations

International lists :

- Australia inventory (AICS):** All components are listed or exempted.
- China inventory (IECSC):** All components are listed or exempted.
- Japan inventory:** All components are listed or exempted.
- Korea inventory:** All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.

16 . Other information

United States

Label requirements : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.

Hazardous Material Information System (U.S.A.) : **Health** : 1 **Flammability** : 0 **Physical hazards** : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : **Health** : 1 **Flammability** : 0 **Instability** : 0

Canada

WHMIS (Canada) :



References :

- ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005. - Official Mexican Standards NOM-018-STPS-2000 and NOM-004-SCT2-1994.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

16 . Other information



Dr. Luc Séguin, PhD chemist, 25 years as a professional in regulatory compliance

DOCUMENT



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