Safety Data Sheet

according to 29 CFR 1910.1200(g)

Arizona Test Dust (ATD)

1. Identification

Product identifier

Arizona Test Dust (ATD)

Further trade names

Arizona desert sand including Arizona Test Dust, Arizona Road Dust, Arizona Silica, AC Fine and AC Coarse Test Dusts, SAE Fine and Coarse Test Dusts, J726 Test Dusts, ISO 12103-1, A1 Ultrafine Test Dust, ISO 12103-1, A2 Fine Test Dust, ISO 12103-1, A3 Medium Test Dust and ISO 12103-1, A4 Coarse Test Dust, MIL STD 810F Blowing Dust, MIL STD 810G Blowing Dust.

Substance name: Arizona desert sand

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Used to test various filters and mechanical parts

Details of the supplier of the safety data sheet

Company name: Powder Technology Inc.
Street: 1300 Grey Fox Road
Place: USA-55112 Arden Hills, MN
Telephone: +1 952 894 -8737
e-mail: sales@powdertechnologyinc.com
Internet: http://www.powdertechnologyinc.com

Emergency phone number: +1 952 894 -8737

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Carcinogenicity: Carc. 2
Specific target organ toxicity single exposure: STOT SE 3 (respiratory tract irritation)
Specific target organ toxicity repeated or prolonged exposure: STOT RE 1

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:

Hazard statements

Suspected of causing cancer
May cause respiratory irritation
Causes damage to organs through prolonged or repeated exposure

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If exposed or concerned: Get medical advice/attention.
Store locked up.

Hazards not otherwise classified

Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs (silicosis).

3. Composition/information on ingredients

Substances

Chemical characterization

Powder-Sand

Mineral bound:

Aluminium oxide; Alumina 8 - 14 %
CAS No. 1344-28-1

potassium oxide (mineral) 2 - 5 %
CAS No. 12136-45-7

sodium oxide (mineral) 1 - 4 %
CAS No. 1313-59-3

Iron (III) oxide (hematite) 4 - 7 %
CAS No. 1309-37-1

Magnesium oxide 1 - 2 %
CAS No. 1309-48-4

Hazardous components

CAS No	Components	Quantity
14808-60-7	Silica	69 - 77 %
1305-78-8	calcium oxide (mineral)	2,5 - 5,5 %
13463-67-7	titanium dioxide	0 - 1 %

4. First-aid measures

Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical advice.

After inhalation

Provide fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. If experiencing respiratory symptoms: Call a doctor.

After contact with skin

Wash with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

Suspected of causing cancer if inhaled. A repeated, excessive dust exposure can cause pneumoconiosis.
Irritating to eyes.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.
Suitable extinguishing media: Foam. Dry extinguishing powder. Atomized water. Carbon dioxide (CO_2)

Unsuitable extinguishing media

High power water jet.

Specific hazards arising from the chemical

Non-flammable.
In case of fire: Metal oxide smoke, toxic.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Knock down dust with water spray jet. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove persons to safety.

Environmental precautions

No special environmental measures are necessary.

Methods and material for containment and cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Ventilate affected area. Collect in closed containers for disposal.

Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Wear personal protection equipment. Avoid contact with skin, eyes and clothes. Avoid: Generation/formation of dust

Advice on protection against fire and explosion

Usual measures for fire prevention.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on joint storage

Do not store together with: Oxidizing agents. Hydrocarbons, halogenated. Acid. Water.

Further information on storage conditions

Protect from moisture. Keep away from heat.

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No.	Substance	ppm	mg/m³	f/cc	Category	Origin
1305-78-8	Calcium oxide	-	5		TWA (8 h)	PEL
		-	2		TWA (8 h)	REL
			2		TWA (8 h)	ACGIH-2019
1309-37-1	Iron oxide (Fe2O3) (respirable fraction)		5		TWA (8 h)	ACGIH-2019
1309-37-1	Iron oxide dust and fume (as Fe)	-	5		TWA (8 h)	REL
1309-37-1	Iron oxide fume	-	10		TWA (8 h)	PEL
1309-48-4	Magnesium oxide (inhalable fraction)		10		TWA (8 h)	ACGIH-2019
1309-48-4	Magnesium oxide fume Total Particulate	-	15		TWA (8 h)	PEL
14808-60-7	Silica, crystalline (as respirable dust)	-	0.05		TWA (8 h)	REL
14808-60-7	Silica, crystalline - alpha-quartz (respirable fraction)		0.025		TWA (8 h)	ACGIH-2019
14808-60-7	Silica, crystalline quartz, respirable dust	(Z-3)	(Z-3)		TWA (8 h)	PEL
14808-60-7	Silica, crystalline quartz, total dust	-	(Z-3)		TWA (8 h)	PEL
13463-67-7	Titanium dioxide Total dust	-	15		TWA (8 h)	PEL
13463-67-7	Titanium dioxide		10		TWA (8 h)	ACGIH-2019
1344-28-1	alpha-Alumina Respirable fraction	-	5		TWA (8 h)	PEL
1344-28-1	alpha-Alumina Total dust	-	15		TWA (8 h)	PEL

Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Protective and hygiene measures

Do not breathe dust. Avoid dust formation. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes.

Eye/face protection

Wear eye protection/face protection.
Suitable eye protection: Dust protection goggles.

Hand protection

Wear suitable gloves.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at:
Generation/formation of dust.

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Filtering device (full mask or mouthpiece) with filter: FFP2 / N95; HEPA

Environmental exposure controls

No special environmental measures are necessary.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	solid
Color:	brown - red brown
Odor:	odourless
pH-Value:	not determined

Changes in the physical state

Melting point/freezing point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	not determined

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not applicable

Oxidizing properties

Not oxidising.

Vapor pressure: (at 20 °C)	not determined
Density:	2,5 - 2,7 g/cm³
Water solubility:	not soluble

Solubility in other solvents

not determined

Partition coefficient:	not determined
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Vapor density:	not applicable

Other information

Solid content:	100,00 %

Odour threshold: not applicable

10. Stability and reactivity

Reactivity

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stability: Stable

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

No known hazardous reactions.

Conditions to avoid

moisture. heat.

Incompatible materials

Oxidizing agents. Hydrocarbons, halogenated. Acid. Water.

Hazardous decomposition products

In case of fire: Metal oxide smoke, toxic.

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Inhalation, oral, Skin contact, Eye contact.

Acute toxicity

Based on available data, the classification criteria are not met.

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitizing effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer (titanium dioxide)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Contains: Silica (fine dust).

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation

Specific target organ toxicity (STOT) - repeated exposure

Causes damage to organs through prolonged or repeated exposure (Silica (fine dust))
Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs (silicosis).
A repeated, excessive dust exposure can cause pneumoconiosis. Inhalation of dust may cause irritation of the respiratory system.

Carcinogenicity (OSHA):	Not listed.
Carcinogenicity (IARC):	Silica dust, crystalline, in the form of quartz or cristobalite (CAS 14808-60-7) is listed in group 1. Ferric oxide (CAS 1309-37-1) is listed in group 3. Titanium dioxide (CAS 13463-67-7) is listed in group 2B.
Carcinogenicity (NTP):	Not listed.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Inhalation of dust may cause irritation of the respiratory system. The following symptoms may occur: Respiratory complaints, Cough.

Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs (silicosis).
Symptoms: Respiratory complaints, Fever, Cough. acute Symptoms: Fatal if inhaled.

Skin contact: slight irritant but not relevant for classification.
After eye contact: slight irritant but not relevant for classification.
After ingestion: Gastrointestinal complaints, Nausea, Vomiting.

12. Ecological information

Ecotoxicity

The product is not: Ecotoxic.

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

The product has not been tested.

Mobility in soil

The product has not been tested.

Other adverse effects

No information available.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

Contaminated packaging

Dispose of waste according to applicable legislation.

14. Transport information

US DOT 49 CFR 172.101

Proper shipping name:	Not a hazardous material with respect to these transport regulations.

Marine transport (IMDG)

UN number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA

CAS No. 14808-60-7: Yes.
CAS No. 13463-67-7: Yes.
CAS No. 1305-78-8: Yes.
CAS No. 1344-28-1: Yes.
CAS No. 12136-45-7: Yes.
CAS No. 1313-59-3: Yes.
CAS No. 1309-37-1: Yes.
CAS No. 1309-48-4: Yes.

National regulatory information

SARA Section 311/312 Hazards:
Silica (fine dust) (14808-60-7): Delayed (chronic) health hazard
calcium oxide (mineral) (1305-78-8): Immediate (acute) health hazard
titanium dioxide (13463-67-7): Delayed (chronic) health hazard
SARA Section 313 Toxic release inventory:
Aluminum oxide (fibrous forms) (1344-28-1): De minimis limit = 1.0 %, Reportable threshold = Standard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Changes

Revision date:	25.05.2020
Revision No:	1,01

This data sheet contains changes from the previous version in section(s): 1,2,3,8,9,11,15,16.

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists
CFR: Code of Federal Regulations
DOT: Department of Transportation
ICAO: International Civil Aviation Organization
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IARC: International Agency for Research on Cancer
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: permissible exposure limit
REL: recommended exposure limit
SARA: Superfund Amendments and Reauthorization Act
STEL: Short-term exposure limit
TSCA: Toxic Substances Control Act
TWA: time-weighted average
TI: Technical Instructions
DGR: Dangerous Goods Regulations
UN: United Nations

ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds

Other data

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.