

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Flyash, JIS Z8901 Class 5

Revision date: 06.04.2020

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1. Identification

Product identifier

Flyash, JIS Z8901 Class 5

Substance name: silicon dioxide (amorphous)
CAS No: 60676-86-0

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

test dust

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@powdertechologyinc.com
Internet: http://www.powdertechologyinc.com

Emergency phone number: +1 952 894 -8737

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Dam. 1

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

Causes skin irritation
Causes serious eye damage

Precautionary statements

Wash hands thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a poison center/doctor.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Substances

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Chemical characterization

Contains:

silicon dioxide (amorphous) 40 - 60 %
CAS No. 60676-86-0Aluminium oxide; Alumina 15 - 30 %
CAS No. 1344-28-1Iron (III) oxide (hematite) 5 - 35 %
CAS No. 1309-37-1titanium (II) oxide 1 - 3 %
CAS No. 12137-20-1**Hazardous components**

CAS No	Components	Quantity
1305-78-8	Calcium oxide	1 - 3 %
1310-58-3	potassium hydroxide; caustic potash	1 - 3 %
7446-11-9	sulfur trioxide	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. 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

No information available.

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.

Specific hazards arising from the chemical

Non-flammable.

In case of fire: Gases/vapours, irritant; Gases/vapours, toxic.

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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

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste 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

Provide adequate ventilation. 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.

Hints on joint storage

Do not store together with: Acid, Aluminium, Ammonium salts.

Further information on storage conditions

Protect from moisture.

8. Exposure controls/personal protection

Control parameters

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Exposure limits

CAS No.	Substance	ppm	mg/m ³	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 (Fe ₂ O ₃) (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
1310-58-3	Potassium hydroxide	-	-		TWA (8 h)	ACGIH-2019
			2		Peak	ACGIH-2019
60676-86-0	Silica, fused, respirable dust	(Z-3)	(Z-3)		TWA (8 h)	PEL
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

Provide adequate ventilation as well as local exhaust at critical locations.

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.

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).

Environmental exposure controls

Avoid release to the environment.

9. Physical and chemical properties
Information on basic physical and chemical properties

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

Changes in the physical state

Melting point/freezing point: not determined

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Initial boiling point and boiling range: 1000 °C

Flash point: not applicable

Flammability

Solid: not determined

Gas: not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: not determined

Auto-ignition temperature

Solid: not determined

Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapor pressure: not determined

Density: 2,9 g/cm³

Water solubility: Immiscible

Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Vapor density: not determined

Evaporation rate: not determined

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

Exothermic reaction with: Water. Formation of: Acid.

Conditions to avoid

Humidity

Incompatible materials

Acid, Aluminium, Ammonium salts.

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Hazardous decomposition products

In case of fire: Gases/vapours, irritant; Gases/vapours, toxic.

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Inhalation, dermal, oral, Eye contact.

Acute toxicity

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

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
1310-58-3	potassium hydroxide; caustic potash				
	oral	ATE 500 mg/kg			

Irritation and corrosivity

Causes skin irritation

Causes serious eye damage

Sensitizing effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

Specific target organ toxicity (STOT) - single exposure

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

Specific target organ toxicity (STOT) - repeated exposure

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

Carcinogenicity (OSHA):

Not listed.

Carcinogenicity (IARC):

Ferric oxide (CAS 1309-37-1) is listed in group 3.

Carcinogenicity (NTP):

Not listed.

Aspiration hazard

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

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.

Further information

Avoid release to the environment.

13. Disposal considerations

Waste treatment methods

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Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

14. Transport information**US DOT 49 CFR 172.101****Proper shipping name:** No dangerous good in sense of this transport regulation.**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. 60676-86-0: Yes.

CAS No. 1344-28-1: Yes.

CAS No. 1309-37-1: Yes.

CAS No. 1305-78-8: Yes.

CAS No. 12137-20-1: Yes.

CAS No. 1310-58-3: Yes.

CAS No. 7446-11-9: Yes.

National regulatory information

SARA Section 302 Extremely hazardous substances:

Sulfur trioxide (7446-11-9): Reportable quantity = 100 lbs., Threshold planning quantity = 100 lbs.

SARA Section 304 CERCLA:

Potassium hydroxide (1310-58-3): Reportable quantity = 1,000 (454) lbs. (kg)

SARA Section 311/312 Hazards:

Calcium oxide (1305-78-8): Immediate (acute) health hazard

Potassium hydroxide (1310-58-3): Immediate (acute) health hazard

Sulfur trioxide (7446-11-9): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Aluminum oxide (fibrous forms) (1344-28-1): De minimis limit = 1.0 %, Reportable threshold = Standard

Clean Air Act Section 112(r):

Sulfur trioxide (7446-11-9): Threshold quantities = 10,000 lbs.

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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

Hazardous Materials Information Label (HMIS)

Health: 2
Flammability: 0
Physical Hazard: 0

NFPA Hazard Ratings

Health: 2
Flammability: 0
Reactivity: 1
Unique Hazard:
Revision date: 06.04.2020
Revision No: 1,00



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



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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.