



1. Identification

**Product identifier** Aluminum sulfide (Al<sub>2</sub>S<sub>3</sub>) powder and pieces

**Other means of identification**

SDS number 1AS

Materion Code 1AS

CAS number 1302-81-4

Synonyms Aluminum sulfide (Al<sub>2</sub>S<sub>3</sub>) \* Dialuminium trisulphide \* Dialuminium trisulfide

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** Materion Electronic Materials

**Address** 6070 Parkland Blvd  
Mayfield Heights, Ohio 44124  
United States

**Telephone** 1.216.383.4019

**E-mail** Materion-PS@materion.com

**Contact person** Product Stewardship Director

**Emergency phone number** See Section 16

2. Hazard(s) identification

**Physical hazards** Substances and mixtures which, in contact with water, emit flammable gases Category 1

**Health hazards** Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** In contact with water releases flammable gases which may ignite spontaneously. Causes skin irritation. Causes skin and eye irritation. May cause respiratory irritation.

**Precautionary statement**

**Prevention** Handle and store contents under inert gas. Protect from moisture. Do not breathe fume/gas/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Brush off loose particles from skin and immerse in cool water.

**Storage** Store in a dry place. Store in a closed container.

**Disposal** Not available.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** For further information, please contact the Product Stewardship Department at +1.800.862.4118.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
Aluminum sulfide	Aluminum sulfide (Al <sub>2</sub> S <sub>3</sub> ) Dialuminium trisulphide Dialuminium trisulfide	1302-81-4	100

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
<b>Skin contact</b>	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Conjunctivitis. May cause respiratory irritation. Coughing. Discomfort in the chest. Skin irritation. May cause redness and pain.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Water.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. Do not get water inside container.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.
<b>General fire hazards</b>	In contact with water releases flammable gases which may ignite spontaneously.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
--	--

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

Do not get water on spilled substance or inside containers.

Large Spills: Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**Environmental precautions**

**7. Handling and storage**

**Precautions for safe handling**

Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Never allow product to get in contact with water during storage. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a dry place. Store away from incompatible materials (see Section 10 of the SDS). Keep container tightly closed in a cool, well-ventilated place.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

**US. ACGIH Threshold Limit Values (TLV)**

Material	Type	Value	Form
Aluminum sulfide (CAS 1302-81-4)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering 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. General ventilation normally adequate. Provide eyewash station and safety shower.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves.

**Other**

Wear appropriate chemical resistant clothing. Wear protective gloves.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

**Physical state**

Solid.

**Form**

Solid.

**Color**

Not available.

**Odor**

Not available.

**Odor threshold**

Not available.

pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
<b>Upper/lower flammability or explosive limits</b>	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
<b>Solubility(ies)</b>	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
<b>Other information</b>	
Explosive properties	Not explosive.
Molecular formula	Al <sub>2</sub> S <sub>3</sub> Al.S
Oxidizing properties	Not oxidizing.

## 10. Stability and reactivity

Reactivity	In contact with water releases flammable gas.
Chemical stability	Risk of explosion. Risk of ignition.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to moisture. Contact with water liberates flammable gas. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Water.
Hazardous decomposition products	Sulfur oxides.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Due to lack of data the classification is not possible.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Irritating to eyes, respiratory system and skin. Skin irritation. May cause redness and pain.

### Information on toxicological effects

**Acute toxicity** Not known. Causes eye irritation. Causes skin irritation. May cause irritation to the respiratory system.

<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation. Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation. May be irritating to eyes.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Due to lack of data the classification is not possible.
<b>Skin sensitization</b>	May be irritating to the skin.
<b>Germ cell mutagenicity</b>	Due to lack of data the classification is not possible.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

<b>Reproductive toxicity</b>	Due to lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Respiratory tract irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Due to lack of data the classification is not possible.
<b>Aspiration hazard</b>	Due to lack of data the classification is not possible.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

<b>DOT</b>	
<b>UN number</b>	UN3134
<b>UN proper shipping name</b>	Water-reactive solid, toxic, n.o.s.
<b>Transport hazard class(es)</b>	
<b>Class</b>	4.3
<b>Subsidiary risk</b>	6.1

Label(s)	4.3, 6.1
Packing group	I
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A8, IB4, IP1, N40
Packaging exceptions	None
Packaging non bulk	211
Packaging bulk	242

**IATA**

UN number	UN3134
UN proper shipping name	Water-reactive solid, toxic, n.o.s.
Transport hazard class(es)	
Class	4.3
Subsidiary risk	6.1
Packing group	I
Environmental hazards	No.
ERG Code	4PW
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Forbidden
Cargo aircraft only	Allowed with restrictions.

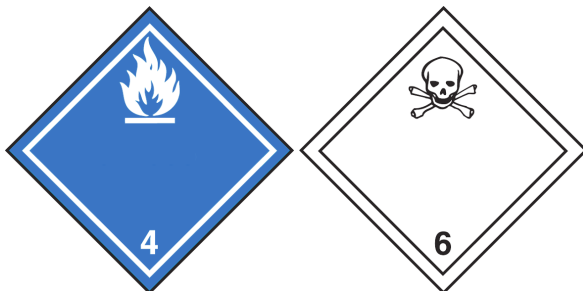
**IMDG**

UN number	UN3134
UN proper shipping name	WATER-REACTIVE SOLID, TOXIC, N.O.S.
Transport hazard class(es)	
Class	4.3
Subsidiary risk	6.1
Packing group	I
Environmental hazards	
Marine pollutant	No.
EmS	F-G, S-N
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

**DOT**



**IATA; IMDG**



## 15. Regulatory information

### US federal regulations

All components are on the U.S. EPA TSCA Inventory List.  
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
CERCLA/SARA Hazardous Substances - Not applicable.

### Toxic Substances Control Act (TSCA)

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes

#### Classified hazard categories

In contact with water emits flammable gas

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

### US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

#### California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## 16. Other information, including date of preparation or last revision

Issue date 08-31-2018

Revision date 04-10-2024

Version # 02

### Further information

Transportation Emergency  
Call Chemtrec at:  
US: 800.424.9300  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
South Korea Toll-free Number – 080-880-0468

**Disclaimer**

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.