

SECTION 1: IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Product identifiers

Product Name : ACS Material Yttrium Oxide
 Brand : ACS Material LLC
 CAS-No. : 1314-36-9

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

Identified uses : Laboratory chemicals, Manufacturing of substances

1.3 Details of the supplier of the safety data sheet

Company : ACS MATERIAL LLC
 959 E Walnut Street, Suite 100
 Pasadena, CA 91106
 USA
 Telephone : +1 (866)-227-0656
 Fax : +1 (781)-518-0284

1.4 Emergency telephone number

Emergency Phone #: +1 (866)-227-0656

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H319

Causes serious eye irritation.

Precautionary statement(s)
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ eye protection/ face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do continue rinsing.
 P337+P313 If eye irritation persists get medical advice/attention.
 Supplemental Hazard Statements None

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substance name : Yttrium Oxide
 CAS-No : 1314-36-9
 EC-No. : 215-233-5
 Synonyms : Yttrium(III) oxide, Yttria, diyttrium trioxide, yttrium
 Linear formula : Y₂O₃
 Molecular weight : 255.81 g/mol

Hazardous ingredients

Components	Concentration	CAS No.
Yttrium Oxide	>99.99%	1314-36-9

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities: None known.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

- 4.2 Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
- 4.3 Indication of any immediate medical attention and special treatment needed**
No data available

SECTION 5: FIREFIGHTING MEASURES

- 5.1 Extinguishing media**
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2 Special hazards arising from the substance or mixture**
Yttrium oxides
- 5.3 Advice for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information**
No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
Avoid dust formation. Avoid breathing vapours, mist or gas. Avoid breathing dust.
For personal protection see section 8.
- 6.2 Environmental precautions**
No special environmental precautions required..
- 6.3 Methods and materials for containment and cleaning up**
Sweep up and shovel. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections**
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling**
Suitable extinguishing media
Avoid contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- 7.3 Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|--|--|
| 1) Appearance | Form: powder |
| 2) Odour | Colour: white
Odourless |
| 3) Odour Threshold | No data available |
| 4) pH | No data available |
| 5) Melting point/freezing point | Melting point/freezing point: > 400 °C - OECD Test Guideline 102 |
| 6) Initial boiling point and boiling range | > 400 °C - OECD Test Guideline 103 |
| 7) Flash point | Not applicable |
| 8) Evaporation rate | No data available |
| 9) Flammability (solid, gas) | Not auto-flammable |



10) Upper/lower flammability or explosive limits	No data available
11) Vapour pressure	No data available
12) Vapour density	No data available
13) Relative density	5.01 g/cm ³ at 20 °C
14) Water solubility	Insoluble
15) Partition coefficient: n- octanol/water	No data available
16) Auto-ignition temperature	> 400 °C
17) Decomposition temperature	No data available
18) Viscosity	No data available
19) Explosive properties	No data available
20) Oxidizing properties	The substance or mixture is not classified as oxidizing.

9.2 Other safety information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

Water, Strong acids, Carbon dioxide (CO₂), Ammonium salts

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions - Yttrium oxides.

Other decomposition products - No data available

In the event of fire: see section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects**Acute toxicity**

LD50 Oral - Rat - male and female - > 5,000 mg/Kg (Yttrium oxide)

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 5.09 mg/L (Yttrium oxide)

(OECD Test Guideline 436)

LD50 Intraperitoneal - Rat - 230 mg/Kg (Yttrium oxide)

Skin corrosion/irritation

Skin - Rabbit(Yttrium oxide)

Result: No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit(Yttrium oxide)

Result: Mild eye irritant

Respiratory or skin sensitisation

Maximisation Test - Guinea pig(Yttrium oxide)

Result: Did not cause sensitisation on laboratory animals.

(Directive 67/548/EEC, Annex V, B.6.)

Germ cell mutagenicity

Chromosome aberration test in vitro(Yttrium oxide)

Chinese hamster fibroblasts

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: ZG3850000

Rare earth compounds may cause delayed blood clotting leading to hemorrhag heat, itching, and increased awareness of odor and taste., Coagulation abnormalities., Gastrointestinal disturbance, Skin contact or inhalation may result in:, Asthma, Cough, muscles, Damage to the lungs., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Yttrium oxide)

SECTION 12: ECOLOGICAL INFORMATION

- 12.1 Toxicity**
No data available
- 12.2 Persistence and degradability**
No data available
- 12.3 Bioaccumulative potential**
No data available
- 12.4 Mobility in soil**
No data available
- 12.5 Results of PBT and vPvB assessment**
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
- 12.6 Other adverse effects**
No data available

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods**
 - Product**
Offer surplus and non-recyclable solutions to a licensed disposal company.
 - Contaminated packaging**
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

- 14.1 UN number**
ADR/RID: - IMDG: - IATA: -
- 14.2 UN proper shipping name**
ADR/RID: Not dangerous goods
MDG: Not dangerous goods
IATA: Not dangerous goods
- 14.3 Transport hazard class(es)**
ADR/RID: - IMDG: - IATA: -
- 14.4 Packaging group**
ADR/RID: - IMDG: - IATA: -
- 14.5 Environmental hazards**
ADR/RID: no IMDG Marine pollutant: no IATA: no
- 14.6 Special precautions for user**



No data available

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. **Chemical safety assessment**

For this product a chemical safety assessment was not carried out.

SECTION 16: OTHER INFORMATION

HMIS Rating

Health hazard: 1

Chronic Health Hazard:

Flammability: 0

Physical Hazard: 0

NFPA Rating

Health hazard: 1

Fire Hazard: 0

Reactivity Hazard: 0

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