



# SAFETY DATA SHEET

## MATERION

Version #: 08

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Registration number**

-

**Synonyms**

YTTRIUM FLUORIDE \* Yttrium fluoride (YF<sub>3</sub>) \* Yttrium trifluoride

**Materion Code**

2DH

### 1.1. Product identifier

**Name of the substance**

Yttrium fluoride

**Identification number**

237-257-5 (EC number)

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

**Identified uses**

Not available.

**Uses advised against**

None known.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

**Company name**

Materion Electronic Materials

**Address**

6070 Parkland Blvd

Mayfield Heights, OH 44124

United States

**Division**

**Telephone**

1.216.383.4019

**e-mail**

Materion-PS@materion.com

**Contact person**

Product Stewardship Director

### 1.4. Emergency telephone number

**Document number**

2DH

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

### Classification according to Regulation (EC) No 1272/2008 as amended

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:**

Yttrium fluoride

**Hazard pictograms**



**Signal word**

Warning

**Hazard statements**

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

### Precautionary statements

**Prevention**

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P264

Wash thoroughly after handling.

**Response**

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a poison centre/doctor// if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

#### Storage

P403 + P233	Store away from incompatible materials.
	Store in a well-ventilated place. Keep container tightly closed.

#### Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Supplemental label information

##### 2.3. Other hazards

This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. The substance is not included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

Chemical name	%	CAS-No. / EC	REACH Registration No.	Index No.	Notes
Yttrium fluoride	100	13709-49-4 237-257-5		-	#

**Classification:** Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335

#### List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Union workplace exposure limit(s).

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

#### General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

#### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

#### Skin contact

Remove contaminated clothing. Wash with plenty of soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

#### Eye contact

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.

#### Ingestion

Rinse mouth. Get medical attention if symptoms occur.

### 4.2. Most important symptoms and effects, both acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

#### General fire hazards

No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

#### Suitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire. Use fire-extinguishing media appropriate for surrounding materials.

### 5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

<b>Special protective equipment for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Special firefighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Wear appropriate personal protective equipment.
<b>For emergency responders</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
<b>6.2. Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.
<b>6.3. Methods and material for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Following product recovery, flush area with water.
<b>6.4. Reference to other sections</b>	For personal protection, see section 8 of the SDS. For waste disposal, see section 13.

## SECTION 7: Handling and storage

<b>7.1. Precautions for safe handling</b>	Avoid prolonged exposure. Observe good industrial hygiene practices.
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<b>7.2. Conditions for safe storage, including any incompatibilities</b>	Store in a closed container away from incompatible materials. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
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<b>7.3. Specific end use(s)</b>	Observe industrial sector guidance on best practices.
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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended

Material	Type	Value	Form
Yttrium fluoride (CAS 13709-49-4)	MAK	2,5 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	12,5 mg/m <sup>3</sup>	Inhalable fraction.

##### Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m <sup>3</sup>

##### Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	MAC	2,5 mg/m <sup>3</sup>

##### Cyprus. OELs. Occupational Exposure Limit Values of Chemicals at Work (Safety and Health at Work (Chem. Agents) Reg., Ann. 1, R.A.A. 268/2001, as amended)

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m <sup>3</sup>

##### Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	Ceiling	5 mg/m <sup>3</sup>
	TWA	2,5 mg/m <sup>3</sup>

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**France. OELs. Indicative Occupational Exposure Limits as Prescribed by Order of 30 June 2004, as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	VME	2,5 mg/m3

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	VME	2,5 mg/m3

**Regulatory status:** Regulatory indicative (VRI)

**Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Luxembourg. OELs. Binding Occupational Exposure Limit Values (Annex I), G.D.R. of 14 November 2016, OJ Memorial A, n ° 235/2016, as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Malta. OELs. Protection of Health and Safety of Workers from Risks related to Chemical Agents at Work (L.N 227/2003 Schedules I and V), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Netherlands. OELs per Annex XIII of Working Conditions Regulation (Staatscourant no. 252, 29 December 2006), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	STEL	2 mg/m3

**Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TLV	0,5 mg/m3

**Portugal. Decree-Law No. 24/2012, Occupational Exposure Limit Values, Annex II, as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Sweden. OELs (Annex 1). Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1), as amended**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2 mg/m3

**UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU**

Material	Type	Value
Yttrium fluoride (CAS 13709-49-4)	TWA	2,5 mg/m3

**Biological limit values****Croatia. BELs (BGV). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and BELs, Annex IV (NN 91/2018), as amended**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	8 mg/g	Fluoride	Creatinine in urine	*
	4 mg/g	Fluoride	Creatinine in urine	*
	40 mmol/mol	Fluoride	Creatinine in urine	*
	24 mmol/mol	Fluoride	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Czech Republic. BELs. Government Decree 432/2003 Sb., as amended**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	60 µmol/mmol	Fluoride	Creatinine in urine	*
	10 mg/g	Fluoride	Creatinine in urine	*

\* - For sampling details, please see the source document.

**France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS), ND 2065)**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	3 mg/g	Fluorures	Creatinine in urine	*
	10 mg/g	Fluorures	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Germany. TRGS 903, BAT List (Biological Limit Values)**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	4 mg/l	Fluorid	Urine	*

\* - For sampling details, please see the source document.

**Hungary. BELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 3&4, as amended**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	42 µmol/mmol	fluoride	Creatinine in urine	*
	24 µmol/mmol	fluoride	Creatinine in urine	*
	7 mg/g	fluoride	Creatinine in urine	*
	4 mg/g	fluoride	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	7 mg/g	fluorides	Creatinine in urine	*
	4 mg/g	fluorides	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Spain. BELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 3-Valores Límite Biológicos (VLB)**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	3 mg/l	Fluoruros	Urine	*
	2 mg/l	Fluoruros	Urine	*

\* - For sampling details, please see the source document.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle BAT-Werte**

Material	Value	Determinant	Specimen	Sampling Time
Yttrium fluoride (CAS 13709-49-4)	4 mg/l	Fluorid	Urine	*

\* - For sampling details, please see the source document.

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**Exposure guidelines**

**Hungary OELs: Skin designation**

Yttrium fluoride (CAS 13709-49-4) Can be absorbed through the skin.

**8.2. Exposure controls**

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) 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. 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. Ensure adequate ventilation, especially in confined areas.

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

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**- Hand protection** Wear appropriate chemical resistant gloves.

<b>- Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. 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.
<b>Environmental exposure controls</b>	Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Boiling point or initial boiling point and boiling range</b>	Not available.
<b>Flammability</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit – upper (%)</b>	Not available.
<b>Flash point</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>pH</b>	Not available.
<b>Kinematic viscosity</b>	Not available.
<b>Solubility</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water) (log value)</b>	Not available.
<b>Vapour pressure</b>	<0,0000001 kPa (25 °C (77 °F))
<b>Density and/or relative density</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Particle characteristics</b>	Not available.
<b>9.2. Other information</b>	
<b>9.2.1. Information with regard to physical hazard classes</b>	No relevant additional information available.
<b>9.2.2. Other safety characteristics</b>	
<b>Molecular formula</b>	F3Y
<b>Molecular weight</b>	19 g/mol

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents.
<b>10.6. Hazardous decomposition products</b>	Hydrogen fluoride.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** Due to lack of data the classification is not possible.

**Eye contact** Due to lack of data the classification is not possible.

**Ingestion** Due to lack of data the classification is not possible.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity** Due to partial or complete lack of data the classification is not possible. Causes skin irritation. Causes eye irritation.

**Skin corrosion/irritation** Due to partial or complete lack of data the classification is not possible.

**Serious eye damage/eye irritation** Due to partial or complete lack of data the classification is not possible.

**Respiratory sensitisation** Due to partial or complete lack of data the classification is not possible.

**Skin sensitisation** Due to partial or complete lack of data the classification is not possible.

**Germ cell mutagenicity** Due to partial or complete lack of data the classification is not possible.

**Carcinogenicity** Due to partial or complete lack of data the classification is not possible.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Yttrium fluoride (CAS 13709-49-4) 3 Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity - single exposure** Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure** Due to partial or complete lack of data the classification is not possible.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

**Mixture versus substance information** No information available.

### 11.2. Information on other hazards

**Endocrine disrupting properties** This substance does not have endocrine disrupting properties with respect to human health, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

**Other information** This product has no known adverse effect on human health.

## SECTION 12: Ecological information

**12.1. Toxicity** Not expected to be harmful to aquatic organisms. Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible. 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.

**12.2. Persistence and degradability** No data is available on the degradability of this product.

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient n-octanol/water (log K<sub>ow</sub>)** Not available.

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

**12.6. Endocrine disrupting properties** This substance does not have endocrine disrupting properties with respect to the environment, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

**12.7. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 12.8. Additional information

### Estonia Dangerous substances in soil Data

Yttrium fluoride (CAS 13709-49-4)

Fluoride (As F ion) 1200 mg/kg

Fluoride (As F ion) 2000 mg/kg

Fluoride (As F ion) 450 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Residual waste

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).

#### Contaminated packaging

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.

#### EU waste code

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### Disposal methods/information

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

#### Special precautions

Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

#### ADR

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

**14.3. Transport hazard class(es)**

**Class** Not assigned.

**Subsidiary risk** -

**Hazard No. (ADR)** Not assigned.

**Tunnel restriction code** Not assigned.

**14.4. Packing group** -

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Not assigned.

#### RID

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

**14.3. Transport hazard class(es)**

**Class** Not assigned.

**Subsidiary risk** -

**14.4. Packing group** -

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Not assigned.

#### ADN

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

**14.3. Transport hazard class(es)**

**Class** Not assigned.

**Subsidiary risk** -

**14.4. Packing group** -

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Not assigned.

#### IATA

**14.1. UN number** Not regulated as dangerous goods.

**14.2. UN proper shipping name** Not regulated as dangerous goods.

**14.3. Transport hazard class(es)**

Class Not assigned.

Subsidiary risk -

**14.4. Packing group**

-

**14.5. Environmental****hazards****14.6. Special precautions  
for user****IMDG****14.1. UN number**

Not regulated as dangerous goods.

**14.2. UN proper shipping  
name**

Not regulated as dangerous goods.

**14.3. Transport hazard class(es)**

Class Not assigned.

Subsidiary risk -

**14.4. Packing group**

-

**14.5. Environmental hazards**

Marine pollutant No.

**EmS****14.6. Special precautions  
for user****SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Yttrium fluoride (CAS 13709-49-4)

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations****Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use****Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended - Conditions of restriction given for the associated entry number should be considered**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended**

Not listed.

<b>Other regulations</b>	The product is classified and labelled in accordance with EC directives or respective national laws The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
<b>National regulations</b>	Follow national regulation for work with chemical agents.
	Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.
<b>France regulations</b>	
	<b>France INRS Table of Occupational Diseases</b>
	Yttrium fluoride (CAS 13709-49-4)      Affections professionnelles provoquées par le fluor, l'acide fluorhydrique et ses sels minéraux 32
<b>15.2. Chemical safety assessment</b>	No Chemical Safety Assessment has been carried out.
<b>SECTION 16: Other information</b>	
<b>List of abbreviations</b>	<p>ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).</p> <p>CAS: Chemical Abstract Service.</p> <p>CEN: European Committee for Standardization.</p> <p>IATA: International Air Transport Association.</p> <p>IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>MAC: Maximum Allowed Concentration.</p> <p>MARPOL: International Convention for the Prevention of Pollution from Ships.</p> <p>PBT: Persistent, bioaccumulative and toxic.</p> <p>RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.</p> <p>STEL: Short term exposure limit.</p> <p>TLV: Threshold Limit Value.</p> <p>TWA: Time Weighted Average.</p> <p>VLE: Exposure Limit Value.</p> <p>VME: Exposure Average Value.</p> <p>vPvB: Very persistent and very bioaccumulative.</p>
<b>References</b>	<p>Not available.</p> <p>Not applicable.</p>
<b>Information on evaluation method leading to the classification of mixture</b>	
<b>Full text of any statements, which are not written out in full under sections 2 to 15</b>	<p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H335 May cause respiratory irritation.</p>
<b>Revision information</b>	This document has undergone significant changes and should be reviewed in its entirety.
<b>Training information</b>	Follow training instructions when handling this material.
<b>Further information</b>	<p>Transportation Emergency</p> <p>Call Chemtrec at:</p> <p>US: 800.424.9300</p> <p>International: 703.741.5970</p> <p>Spain: 900.868.538</p> <p>Switzerland: 0800.564.402</p> <p>Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059</p> <p>South Korea Toll-free Number – 080-880-0468</p>
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