



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Trade name or designation of the mixture Ge-As-Se-Te-Si 15-29-42-7-7
Synonyms None.
Document number 1SK
Materion Code 1SK
Issue date 04-March-2016
Version number 02
Revision date 12-January-2018
Supersedes date 04-March-2016

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 Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Noreen Atkinson

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Health hazards

Acute toxicity, oral	Category 3
Acute toxicity, inhalation	Category 3
Carcinogenicity	Category 1A
Specific target organ toxicity - repeated exposure	Category 2

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary

Exposure to powder or dusts may be irritating to eyes, nose and throat. Prolonged exposure may cause chronic effects. Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

2.2. Label elements

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

Contains: Arsenic, Selenium, Tellurium

Hazard pictograms



Signal word

Warning

Hazard statements

H400

H410

The mixture does not meet the criteria for classification.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273

Observe good industrial hygiene practices.
Avoid release to the environment.

Response

P391

Wash hands after handling.
Collect spillage.

Storage

Store away from incompatible materials.

Disposal

P501

Dispose of waste and residues in accordance with local authority requirements.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

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

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Arsenic		7440-38-2 231-148-6	-	033-001-00-X	
Classification:		Acute Tox. 3;H301, Acute Tox. 3;H331, Carc. 1A;H350, Aquatic Acute 1;H400, Aquatic Chronic 1;H410			
Selenium		7782-49-2 231-957-4	-	034-001-00-2	
Classification:		Acute Tox. 3;H301, Acute Tox. 3;H331, STOT RE 2;H373			
Tellurium		13494-80-9 236-813-4	-	-	
Classification:		Acute Tox. 3;H301			
Other components below reportable levels	0				

List of abbreviations and symbols that may be used above

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

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

Composition comments

The full text for all H-statements is displayed in section 16.

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

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Do not rub eyes. Rinse with water. 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

Headache. Dusts may irritate the respiratory tract, skin and eyes.

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

Suitable extinguishing media Powder. Foam. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special firefighting procedures Move containers from fire area if you can do so without risk.

Specific methods 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

For non-emergency personnel Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid prolonged exposure. Practice good housekeeping.

7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	MAK	0,1 mg/m ³	Inhalable fraction.
	STEL	0,3 mg/m ³	Inhalable fraction.
Tellurium (CAS 13494-80-9)	MAK	0,1 mg/m ³	Inhalable fraction.
	STEL	0,5 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³
Silicon (CAS 7440-21-3)	TWA	10 mg/m ³

Belgium. Exposure Limit Values.

Components	Type	Value
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,05 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	MAC	0,1 mg/m ³	
Selenium (CAS 7782-49-2)	MAC	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	STEL	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
Tellurium (CAS 13494-80-9)	MAC	0,1 mg/m ³	

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Arsenic (CAS 7440-38-2)	Ceiling	0,4 mg/m ³
	TWA	0,1 mg/m ³
Selenium (CAS 7782-49-2)	Ceiling	0,2 mg/m ³
	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	Ceiling	0,5 mg/m ³
	TWA	0,1 mg/m ³

Denmark. Exposure Limit Values

Components	Type	Value	Form
Silicon (CAS 7440-21-3)	TLV	10 mg/m ³	
Tellurium (CAS 13494-80-9)	TLV	0,1 mg/m ³	Dust.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,03 mg/m ³	
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	5 mg/m ³	Respirable dust.
		10 mg/m ³	
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Finland. Workplace Exposure Limits

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	STEL	0,3 mg/m ³
	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	STEL	0,3 mg/m ³
	TWA	0,1 mg/m ³

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

Components	Type	Value
Silicon (CAS 7440-21-3)	VME	10 mg/m ³
Tellurium (CAS 13494-80-9)	VME	0,1 mg/m ³

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	TWA	0,02 mg/m ³	Inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace Components

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	AGW	0,05 mg/m ³	Inhalable fraction.

Greece. OELs (Decree No. 90/1999, as amended) Components

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,1 mg/m ³	Respirable. Inhalable
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	5 mg/m ³	
		10 mg/m ³	
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	Ceiling	0,01 mg/m ³
Selenium (CAS 7782-49-2)	STEL	0,4 mg/m ³
	TWA	0,1 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits Components

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³	Dust.
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	0,7 mg/m ³	
		0,5 ppm	
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Ireland. Occupational Exposure Limits Components

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³	Respirable dust. Total inhalable dust.
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	4 mg/m ³	
		10 mg/m ³	
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Italy. Occupational Exposure Limits Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment Components

Components	Type	Value
Tellurium (CAS 13494-80-9)	TWA	0,01 mg/m ³

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,03 mg/m ³
Germanium (CAS 7440-56-4)	TWA	2 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Netherlands. OELs (binding) Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,0028 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	TLV	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TLV	0,05 mg/m ³
Silicon (CAS 7440-21-3)	TLV	10 mg/m ³
Tellurium (CAS 13494-80-9)	TLV	0,1 mg/m ³

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1 Components

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Components	Type	Value
Selenium (CAS 7782-49-2)	STEL	0,3 mg/m ³
	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	STEL	0,03 mg/m ³
	TWA	0,01 mg/m ³

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,2 mg/m ³
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
Arsenic (CAS 7440-38-2)	STEL	0,1 mg/m ³
	TWA	0,01 mg/m ³
Germanium (CAS 7440-56-4)	STEL	5 mg/m ³
	TWA	2 mg/m ³
Selenium (CAS 7782-49-2)	STEL	0,2 mg/m ³
	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	STEL	0,15 mg/m ³
	TWA	0,05 mg/m ³

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	4 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	Inhalable fraction.
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	Inhalable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,01 mg/m ³	Total dust.
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	Total dust.
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Selenium (CAS 7782-49-2)	STEL	0,16 mg/m ³	Inhalable dust.
	TWA	0,02 mg/m ³	Inhalable dust.
Silicon (CAS 7440-21-3)	TWA	3 mg/m ³	Respirable dust.
Tellurium (CAS 13494-80-9)	STEL	0,2 mg/m ³	Inhalable dust.
	TWA	0,1 mg/m ³	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Arsenic (CAS 7440-38-2)	TWA	0,1 mg/m ³	
Selenium (CAS 7782-49-2)	TWA	0,1 mg/m ³	
Silicon (CAS 7440-21-3)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.
Tellurium (CAS 13494-80-9)	TWA	0,1 mg/m ³	

Biological limit values

Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	70 µg/l	Arsenic	Urine	*
	0,93 µmol/l	Arsenic	Urine	*

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

Czech Republic. Limit Values for Indicators of Biological Exposure Tests in Urine and Blood, Annex 2, Tables 1 and 2, Government Decree 432/2003 Sb.

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	0,075 µmol/mmol	Arsenic	Creatinine in urine	*
	0,05 mg/g	Arsenic	Creatinine in urine	*

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

Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV), Social Affairs and Ministry of Health

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	70 nmol/l	Inorganic arsenic	Urine	*

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

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

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	0,05 mg/g	Métabolites de l'arsenic inorganique	Creatinine in urine	*

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

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	0,13 mg/g	Arsenic	Creatinine in urine	*
	0,2 µmol/mmol	Arsenic	Creatinine in urine	*
Selenium (CAS 7782-49-2)	0,075 mg/g	Selenium	Creatinine in urine	*
	0,11 µmol/mmol	Selenium	Creatinine in urine	*

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

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	35 µg/l	Arsénico inorgánico más metabolitos metilados como As	Urine	*

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

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Determinant	Specimen	Sampling time
Arsenic (CAS 7440-38-2)	50 µg/l	Anorganisches Arsen und methylierte Metaboliten	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.

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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

General information 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. Suitable gloves can be recommended by the glove supplier.

- Other Wear suitable protective clothing.

Respiratory protection Wear respirator with dust filter.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures 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.

Environmental exposure controls Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Powder.

Colour Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 180 °C (356 °F) estimated

Initial boiling point and boiling range 685 °C (1265 °F) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 4304,5 hPa estimated

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2. Other information

Density	5,11 g/cm ³ estimated
Specific gravity	5,11 estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Acids. Strong oxidising agents. Chlorine.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms Headache. Dusts may irritate the respiratory tract, skin and eyes.

11.1. Information on toxicological effects

Acute toxicity

Components	Species	Test results
Tellurium (CAS 13494-80-9)		
Acute		
Oral		
LD50	Rat	83 mg/kg

* Estimates for product may be based on additional component data not shown.

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 Risk of cancer cannot be excluded with prolonged exposure.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

IARC Monographs. Overall Evaluation of Carcinogenicity

Arsenic (CAS 7440-38-2)	1 Carcinogenic to humans.
Selenium (CAS 7782-49-2)	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.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity 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.

Components	Species	Test results
Arsenic (CAS 7440-38-2)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 9,9 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

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 Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	Not available.
12.6. 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.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

Arsenic (CAS 7440-38-2)	ARSENIC (AS) 100 UG/L
	ARSENIC (AS) 5 UG/L
Selenium (CAS 7782-49-2)	Selenium (Se) 5 UG/L
	Selenium (Se) 50 UG/L

Estonia Dangerous substances in soil Data

Arsenic (CAS 7440-38-2)	ARSENIC (AS) 20 mg/kg
	ARSENIC (AS) 30 mg/kg
	ARSENIC (AS) 50 mg/kg
Selenium (CAS 7782-49-2)	Selenium (Se) 1 mg/kg
	Selenium (Se) 20 mg/kg
	Selenium (Se) 5 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	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s. (Silicon)
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Hazard No. (ADR)	40
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN3178

14.2. UN proper shipping name Flammable solid, inorganic, n.o.s. (Silicon)

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

Label(s) 4.1

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN3178

14.2. UN proper shipping name Flammable Solid, N.o.s. (Silicon)

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

Label(s) 4.1

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN3178

14.2. UN proper shipping name Flammable solid, inorganic, n.o.s. (Silicon)

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards Yes

ERG Code 3L

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

14.1. UN number UN3178

14.2. UN proper shipping name FLAMMABLE SOLID, INORGANIC, N.O.S. (Silicon), MARINE POLLUTANT

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards

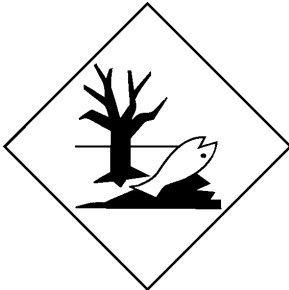
Marine pollutant Yes

EmS F-A, S-G

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.



Marine pollutant



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 (EC) No. 850/2004 On persistent organic pollutants, Annex I 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
Arsenic (CAS 7440-38-2)

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
Arsenic (CAS 7440-38-2)

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.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended
Arsenic (CAS 7440-38-2)
Selenium (CAS 7782-49-2)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information**List of abbreviations**

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Disclaimer

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