



PRODUCT INFORMATION SHEET

MATERION

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

1.1. Product identifier

Name of the substance Molybdenum Backing Plate Assembly
Identification number 7439-98-7 (CAS number)
Synonyms None.
Document number 224
Issue date 03-June-2015
Version number 01

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 product information sheet

Supplier

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States
Division
Telephone Supplier Phone 1+845.279.0900
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

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

Hazard summary

Physical hazards Not classified for physical hazards.
Health hazards Not classified for health hazards.
Environmental hazards Not classified for hazards to the environment.
Specific hazards Not available.
Main symptoms Not available.

2.2. Label elements

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

Contains: Indium, Molybdenum
Hazard pictograms None.
Signal word None.
Hazard statements The substance does not meet the criteria for classification.

Precautionary statements

Prevention Not available.
Response Not available.
Storage Not available.
Disposal Not available.

Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Indium	100 - < 100	7440-74-6 231-180-0	-	-	
Classification:	DSD: -				
	CLP: -				
Molybdenum	100 - < 100	7439-98-7 231-107-2	-	-	
Classification:	DSD: -				
	CLP: -				

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

4.2. Most important symptoms and effects, both acute and delayed Not available.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Not available.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	MAK	10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.

Components	Type	Value	Form
Indium (CAS 7440-74-6)	MAK	0,1 mg/m ³	Inhalable fraction.
	STEL	0,2 mg/m ³	Inhalable fraction.
Molybdenum (CAS 7439-98-7)	MAK	10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Material	Type	Value
Molybdenum Backing Plate Assembly	TWA	10 mg/m ³

Components	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m ³
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m ³

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

Material	Type	Value
Molybdenum Backing Plate Assembly	TWA	10 mg/m ³

Components	Type	Value
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m ³

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

Components	Type	Value
Indium (CAS 7440-74-6)	MAC	0,1 mg/m ³
	STEL	0,3 mg/m ³

Czech Republic. OELs. Government Decree 361

Material	Type	Value
Molybdenum Backing Plate Assembly	Ceiling	25 mg/m ³
	TWA	5 mg/m ³

Components	Type	Value
Molybdenum (CAS 7439-98-7)	Ceiling	25 mg/m ³
	TWA	5 mg/m ³

Denmark. Exposure Limit Values

Material	Type	Value
Molybdenum Backing Plate Assembly	TLV	10 mg/m ³

Components	Type	Value	Form
Indium (CAS 7440-74-6)	TLV	0,1 mg/m ³	Dust.

Denmark. Exposure Limit Values Components

	Type	Value	Form
Molybdenum (CAS 7439-98-7)	TLV	10 mg/m3	

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Components	Type	Value	Form
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Finland. Workplace Exposure Limits

Material	Type	Value
Molybdenum Backing Plate Assembly	TWA	0,5 mg/m3
Components	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3
Molybdenum (CAS 7439-98-7)	TWA	0,5 mg/m3

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

Components	Type	Value
Indium (CAS 7440-74-6)	STEL	1 mg/m3
	TWA	1 mg/m3

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Molybdenum Backing Plate Assembly	STEL	60 mg/m3
	TWA	15 mg/m3
Components	Type	Value
Molybdenum (CAS 7439-98-7)	STEL	60 mg/m3
	TWA	15 mg/m3

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	10 mg/m3	
Components	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3	Dust.
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	

Ireland. Occupational Exposure Limits

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Components	Type	Value	Form
Indium (CAS 7440-74-6)	STEL	0,3 mg/m3	
	TWA	0,1 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

Italy. Occupational Exposure Limits

Components	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	5 mg/m ³	Respirable fraction.
		5 mg/m ³ 10 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m ³	
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m ³	Respirable fraction.
		5 mg/m ³ 10 mg/m ³	Inhalable fraction.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
Molybdenum Backing Plate Assembly	TLV	10 mg/m ³
Components	Type	Value
Indium (CAS 7440-74-6)	TLV	0,1 mg/m ³
Molybdenum (CAS 7439-98-7)	TLV	10 mg/m ³

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Material	Type	Value
Molybdenum Backing Plate Assembly	STEL	10 mg/m ³
	TWA	4 mg/m ³
Components	Type	Value
Molybdenum (CAS 7439-98-7)	STEL	10 mg/m ³
	TWA	4 mg/m ³

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m ³	
Molybdenum (CAS 7439-98-7)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.

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

Material	Type	Value
Molybdenum Backing Plate Assembly	STEL	10 mg/m ³
	TWA	5 mg/m ³
Components	Type	Value
Molybdenum (CAS 7439-98-7)	STEL	10 mg/m ³
	TWA	5 mg/m ³

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

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	5 mg/m ³	Respirable fraction.
		5 mg/m ³ 10 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m ³	Respirable fraction.
		5 mg/m ³	

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

Components	Type	Value	Form
		10 mg/m3	Inhalable fraction.

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
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3	Inhalable fraction.

Spain. Occupational Exposure Limits Material

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	10 mg/m3	

Components	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	

Sweden. Occupational Exposure Limit Values Material

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	5 mg/m3	Respirable dust.

Components	Type	Value	Form
		10 mg/m3	Total dust.

Indium (CAS 7440-74-6)	TWA	0,1 mg/m3	Total dust.
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	Respirable dust.

		10 mg/m3	Total dust.
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Switzerland. SUVA Grenzwerte am Arbeitsplatz Material

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	TWA	10 mg/m3	Inhalable dust.

Components	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m3	Inhalable dust.
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	Inhalable dust.

		10 mg/m3	Inhalable dust.
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UK. EH40 Workplace Exposure Limits (WELs) Material

Material	Type	Value	Form
Molybdenum Backing Plate Assembly	STEL	20 mg/m3	

Components	Type	Value	Form
	TWA	10 mg/m3	

Indium (CAS 7440-74-6)	STEL	0,3 mg/m3	
		0 ppm	

Molybdenum (CAS 7439-98-7)	TWA	0,1 mg/m3	
	STEL	20 mg/m3	

	TWA	10 mg/m3	
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Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Not available.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Not available.

Skin protection	
- Hand protection	Not available.
- Other	Not available.
Respiratory protection	Not available.
Thermal hazards	Not available.
Hygiene measures	Not available.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Not available.
Colour	Not available.
Odour	Not applicable.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	2622 °C (4751,6 °F)
Initial boiling point and boiling range	4639 °C (8382,2 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	< 0,0000001 kPa at 25 °C
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Density	10,28 g/cm ³ estimated
Molecular formula	Mo
Molecular weight	95,94 g/mol
Specific gravity	10,28

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Not available.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	Not available.
10.5. Incompatible materials	Not available.

10.6. Hazardous decomposition products Not available.

SECTION 11: Toxicological information

General information Not available.

Information on likely routes of exposure

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

Symptoms Not available.

11.1. Information on toxicological effects

Acute toxicity No data available.

Skin corrosion/irritation Not available.

Serious eye damage/eye irritation Not available.

Respiratory sensitisation Not available.

Skin sensitisation Not available.

Germ cell mutagenicity Not available.

Carcinogenicity Not available.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Mixture versus substance information Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity

Product	Species	Test results
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Molybdenum Backing Plate Assembly

Aquatic

Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	800 mg/l, 96 hours
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Components	Species	Test results
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Molybdenum (CAS 7439-98-7)

Aquatic

Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	800 mg/l, 96 hours
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12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

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

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Material name: Molybdenum Backing Plate Assembly

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Residual waste	Not available.
Contaminated packaging	Not available.
EU waste code	Not available.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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, as amended

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II, as amended

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

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

Not listed.

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.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use

Not regulated.

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.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

Not listed.

Directive 94/33/EC on the protection of young people at work, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15 None.

Revision information None.

Training information Not available.