PRODUCT INFORMATION 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 Cobalt , Zirconium, Molybdenum Product

Synonyms None.

Document number 290

Issue date 05-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 F;R11, T+;R26, T;R25, R42/43

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

Health hazards

Acute toxicity, oral	Category 3	H301 - Toxic if swallowed.
Acute toxicity, inhalation	Category 2	H330 - Fatal if inhaled.
Respiratory sensitisation	Category 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.

Hazard summary

Physical hazards Highly flammable.

Health hazards Toxic if swallowed. Very toxic by inhalation. May cause sensitisation by inhalation and skin contact.

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: Cobalt, Molybdenum, Zirconium

Hazard pictograms None.

Signal word Danger

Hazard statements

H301	Toxic if swallowed.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P320	Specific treatment is urgent (see this label).
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

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

Supplemental label information 100 % of the mixture consists of component(s) of unknown acute oral toxicity.

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
Cobalt	80 - < 97	7440-48-4 231-158-0	-	027-001-00-9	
Classification: **DSD:** R42/43 **CLP:** Skin Sens. 1;H317, Resp. Sens. 1;H334, STOT SE 3;H335, Carc. 2;H351					
Molybdenum	3 - < 10	7439-98-7 231-107-2	-	-	
Classification: **DSD:** - **CLP:** -					
Zirconium	3 - < 10	7440-67-7 231-176-9	-	-	
Classification: **DSD:** - **CLP:** Flam. Sol. 2;H228, Pyr. Sol. 1;H250, Self-heat. 1;H251, Water-React. 2;H261, Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, STOT SE 3;H335, STOT RE 1;H372					

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

Components	Type	Value	Form
Molybdenum (CAS 7439-98-7)	MAK	10 mg/m3	Inhalable fraction.
	STEL	20 mg/m3	Inhalable fraction.
Zirconium (CAS 7440-67-7)	MAK	5 mg/m3	Inhalable fraction.

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	STEL	0,4 mg/m3	Inhalable fraction.
	TWA	0,1 mg/m3	Inhalable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3	Dust and fume.
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	

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

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m3
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3

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

Components	Type	Value
Cobalt (CAS 7440-48-4)	MAC	0,1 mg/m3
Zirconium (CAS 7440-67-7)	MAC	5 mg/m3
	STEL	10 mg/m3

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m3	Dust and fume.
Zirconium (CAS 7440-67-7)	TWA	5 mg/m3	

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Cobalt (CAS 7440-48-4)	Ceiling	0,1 mg/m3
	TWA	0,05 mg/m3
Molybdenum (CAS 7439-98-7)	Ceiling	25 mg/m3
	TWA	5 mg/m3

Denmark. Exposure Limit Values

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TLV	0,01 mg/m3	Dust and fume.
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)

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Finland. Workplace Exposure Limits

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3
Molybdenum (CAS 7439-98-7)	TWA	0,5 mg/m3
Zirconium (CAS 7440-67-7)	TWA	1 mg/m3

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
Zirconium (CAS 7440-67-7)	TWA	1 mg/m3	Inhalable fraction.

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

Components	Type	Value	Form
Zirconium (CAS 7440-67-7)	AGW	1 mg/m3	Inhalable fraction.

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m3	Dust and fume.
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Cobalt (CAS 7440-48-4)	STEL	0,4 mg/m3
	TWA	0,1 mg/m3
Molybdenum (CAS 7439-98-7)	STEL	60 mg/m3
	TWA	15 mg/m3
Zirconium (CAS 7440-67-7)	STEL	20 mg/m3
	TWA	5 mg/m3

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3	Dust and fume.
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	
Zirconium (CAS 7440-67-7)	TWA	5 mg/m3	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	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
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,5 mg/m3

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	
		5 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Zirconium (CAS 7440-67-7)	TWA	6 mg/m3	

Netherlands. OELs (binding)

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3	Dust and fume.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TLV	0,02 mg/m3	Fume.
Molybdenum (CAS 7439-98-7)	TLV	10 mg/m3	

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

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3

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

Components	Type	Value
Molybdenum (CAS 7439-98-7)	STEL	10 mg/m3
	TWA	4 mg/m3
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	

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

Components	Type	Value
Cobalt (CAS 7440-48-4)	STEL	0,1 mg/m3
	TWA	0,05 mg/m3
Molybdenum (CAS 7439-98-7)	STEL	10 mg/m3
	TWA	5 mg/m3
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	
		5 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Zirconium (CAS 7440-67-7)	TWA	1 mg/m3	

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
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m3	Inhalable fraction.
Zirconium (CAS 7440-67-7)	TWA	1 mg/m3	Inhalable dust.

Spain. Occupational Exposure Limits

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3
Zirconium (CAS 7440-67-7)	STEL	10 mg/m3
	TWA	5 mg/m3

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m3	Inhalable dust.
Molybdenum (CAS 7439-98-7)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m3	Dust/aerosol, inhalable.
Molybdenum (CAS 7439-98-7)	TWA	10 mg/m3	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Molybdenum (CAS 7439-98-7)	STEL	20 mg/m3
	TWA	10 mg/m3

Biological limit values

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

Components	Value	Determinant	Specimen	Sampling time
Cobalt (CAS 7440-48-4)	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*

* - 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
Cobalt (CAS 7440-48-4)	0,03 mg/g	Cobalt	Creatinine in urine	*
	0,058 µmol/mmol	Cobalt	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

Components	Value	Determinant	Specimen	Sampling time
Cobalt (CAS 7440-48-4)	20,03 µg/g	Cobalt	Creatinine in urine	*
	30 µg/l	Cobalt	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
Cobalt (CAS 7440-48-4)	15 µg/l	Cobalto	Urine	*
	1 µg/l	Cobalto	Blood	*

* - 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
Cobalt (CAS 7440-48-4)	30 µg/l	Cobalt	Urine	*

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

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	1495 °C (2723 °F) estimated
Initial boiling point and boiling range	2927 °C (5300,6 °F) estimated
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	0,00001 hPa estimated
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	200 °C (392 °F) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Density	10,28 g/cm3 estimated
Specific gravity	10,28 estimated

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Cobalt (CAS 7440-48-4)	2B Possibly carcinogenic to humans.

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	No toxicity data noted for the ingredient(s).
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

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

SECTION 14: Transport information

ADR

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s. (Zirconium)

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	No.
14.6. Special precautions for user	Not available.

RID

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s. (Zirconium)

14.3. Transport hazard class(es)

Class	4.1
Subsidiary risk	-
Label(s)	4.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable Solid, N.o.s. (Zirconium)

14.3. Transport hazard class(es)

Class	4.1
Subsidiary risk	-
Label(s)	4.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

ADN; ADR; RID

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

Zirconium (CAS 7440-67-7)

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

Zirconium (CAS 7440-67-7)

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

Cobalt (CAS 7440-48-4)

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

Cobalt (CAS 7440-48-4)

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	R11 Highly flammable. R25 Toxic if swallowed. R26 Very toxic by inhalation. R42/43 May cause sensitisation by inhalation and skin contact. H228 Flammable solid. H250 Catches fire spontaneously if exposed to air. H251 Self-heating: may catch fire. H261 In contact with water releases flammable gases. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H372 Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
Revision information	None.
Training information	Not available.