



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 05-Mar-2024

Revision Number 1

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

### 1.1. Product identifier

Product Code(s)	VHG-LPENXSUSDIL-500
Product Name	ICP-MS Setup Solution: Be, Ce, Fe, In, Li, Mg, Pb, U @ 1 µg/L in 1% HNO <sub>3</sub>
Form	Not applicable
Unique Formula Identifier (UFI)	E6WD-80WE-S00G-1Q2R
Pure substance/mixture	Mixture

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

Recommended use	Laboratory use
Uses advised against	No information available

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

#### Supplier

LGC Limited  
Queens Road  
Teddington  
Middlesex TW11 0LY  
UNITED KINGDOM  
:+44 (0) 20 8943 7000  
Fax :+44 (0) 20 8943 2767  
eMail : gb@lgcstandards.com

Web : [www.lgcstandards.com](http://www.lgcstandards.com)

For further information, please contact

E-mail address [sds-request@lgcgroup.com](mailto:sds-request@lgcgroup.com)

### 1.4. Emergency telephone number

Emergency Telephone For Hazardous Materials or Dangerous Goods Incident  
Spill, Leak, Fire Exposure, or Accident  
Call CHEMTREC:  
USA & Canada 1-800-424-9300  
Rest of the world +1 703-741-5970



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Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Austria	No information available
Bulgaria	
Croatia	
Cyprus	
Czech Republic	
Denmark	
France	
Hungary	
Ireland	
Italy	
Lithuania	
Luxembourg	
Netherlands	
Norway	
Portugal	
Romania	
Slovakia	
Slovenia	
Spain	
Sweden	
Switzerland	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to  
Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Corrosive to metals	Category 1 - (H290)

### 2.2. Label elements



Signal word



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## Warning

### Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H290 - May be corrosive to metals

### Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves and eye/face protection

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P390 - Absorb spillage to prevent material damage

P201 - Obtain special instructions before use

P234 - Keep only in original container

P406 - Store in corrosive resistant stainless steel container with a resistant inner liner

## 2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
Nitric Acid	-	-
Lithium carbonate	-	-
Lead	-	-
Indium	-	-
Ferric nitrate nonahydrate	-	-
Beryllium Oxyacetate	-	-

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

**Chemical nature** aqueous solution.



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Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Nitric Acid 7697-37-2	1 - <3	-	231-714-2	Met. Corr. 1 (H290) Ox. Liq. 2 (H272) Acute Tox. 3 (H331) Skin Corr. 1A (H314) (EUH071)	Ox. Liq. 2 :: C>=99% Ox. Liq. 3 :: C>=65% Skin Corr. 1A :: C>=20% Skin Corr. 1B :: 5%<=C<20%		
uranyl nitrate, hexahydrate 13520-83-7	<0.1	-	233-266-3	Ox. Sol. 2 (H272) Acute Tox. 2 (H300) Acute Tox. 2 (H330) STOT RE 2 (H373) Aquatic Chronic 2 (H411)			
Lithium carbonate 554-13-2	<0.1	-	209-062-5	Acute Tox. 4 (H302) STOT RE 2 (H373) Aquatic Chronic 3 (H412)			
Lead 7439-92-1	<0.1	-	231-100-4 (082-014-00-7)	Carc. 2 (H351) Repr. 1A (H360FD) Lact. (H362) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Repr. 1A :: C>=0.03%	1	10
Indium 7440-74-6	<0.1	-	231-180-0	STOT RE 1 (H372)			
Ferric nitrate nonahydrate 7782-61-8	<0.1	-	616-509-1	Ox. Sol. 2 (H272) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)			
Beryllium Oxyacetate 19049-40-2	<0.1	-	242-785-4 (004-002-00-2)	Acute Tox. 2 (H330) Acute Tox. 3 (H301) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Carc. 1B (H350) STOT SE 3 (H335) STOT RE 1 (H372)			



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				Aquatic Chronic 2 (H411)			
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**Full text of H- and EUH-phrases: see section 16**

## Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Nitric Acid 7697-37-2	No data available	No data available	No data available	2.65	No data available
Lithium carbonate 554-13-2	525	3000	2.17	No data available	No data available
Indium 7440-74-6	4200	No data available	No data available	No data available	No data available
Ferric nitrate nonahydrate 7782-61-8	3250	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.



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**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** May cause redness and tearing of the eyes. Burning sensation.

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

**Note to doctors** Treat symptomatically.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** No information available.

### **5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **SECTION 6: Accidental release measures**

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**



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**Environmental precautions** Prevent further leakage or spillage if safe to do so.

### 6.3. Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

**General hygiene considerations** Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters



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### Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Nitric Acid 7697-37-2	-	STEL 1 ppm STEL 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>
uranyl nitrate, hexahydrate 13520-83-7	-	TWA: 0.25 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	-
Lead 7439-92-1	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL 0.4 mg/m <sup>3</sup>	-	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>
Indium 7440-74-6	-	TWA: 0.1 mg/m <sup>3</sup> STEL 0.2 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>
Ferric nitrate nonahydrate 7782-61-8	-	-	TWA: 1 mg/m <sup>3</sup>	TWA: 1.0 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>
Beryllium Oxyacetate 19049-40-2	-	-	TWA: 0.00005 mg/m <sup>3</sup> STEL: 0.01 mg/m <sup>3</sup>	-	TWA: 0.0006 mg/m <sup>3</sup> Sk* Skin Sensitisation
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Nitric Acid 7697-37-2	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> Ceiling: 2.5 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	TWA: 0.5 ppm TWA: 1.3 mg/m <sup>3</sup> STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>
uranyl nitrate, hexahydrate 13520-83-7	-	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.4 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>
Lead 7439-92-1	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> Ceiling: 0.2 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> STEL: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>
Indium 7440-74-6	-	-	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.2 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup>
Ferric nitrate nonahydrate 7782-61-8	-	-	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	-	TWA: 1 mg/m <sup>3</sup>
Beryllium Oxyacetate 19049-40-2	-	TWA: 0.001 mg/m <sup>3</sup> Ceiling: 0.002 mg/m <sup>3</sup>	TWA: 0.00002 mg/m <sup>3</sup> STEL: 0.00004 mg/m <sup>3</sup>	-	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Nitric Acid 7697-37-2	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 2.6 mg/m <sup>3</sup>	-	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 2.6 mg/m <sup>3</sup> STEL: 1 ppm
uranyl nitrate, hexahydrate 13520-83-7	-	-	-	TWA: 0.25 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	-
Lithium carbonate 554-13-2	-	-	TWA: 0.2 mg/m <sup>3</sup>	-	-
Lead 7439-92-1	TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 0.004 mg/m <sup>3</sup> Peak: 0.032 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>





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Indium 7440-74-6	-	TWA: 0.0001 mg/m <sup>3</sup>	Sk*	TWA: 1 mg/m <sup>3</sup> STEL: 1 mg/m <sup>3</sup>	-
Ferric nitrate nonahydrate 7782-61-8	-	-	-	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	-
Beryllium Oxycetate 19049-40-2	TWA: 0.0006 mg/m <sup>3</sup>	-	-	TWA: 0.005 mg/m <sup>3</sup>	TWA: 0.0006 mg/m <sup>3</sup> Sk*
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Nitric Acid 7697-37-2	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10.3 mg/m <sup>3</sup>	TWA: 0.78 ppm TWA: 2 mg/m <sup>3</sup> STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>
uranyl nitrate, hexahydrate 13520-83-7	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	TWA: 0.015 mg/m <sup>3</sup>	TWA: 0.015 mg/m <sup>3</sup>
Lead 7439-92-1	TWA: 0.15 mg/m <sup>3</sup> STEL: 0.45 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> STEL: 0.1 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup> TWA: 0.07 mg/m <sup>3</sup>
Indium 7440-74-6	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup>
Ferric nitrate nonahydrate 7782-61-8	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	-	TWA: 1 mg/m <sup>3</sup>	-	-
Beryllium Oxycetate 19049-40-2	TWA: 0.0002 mg/m <sup>3</sup> STEL: 0.0006 mg/m <sup>3</sup> Sk* Sens+	-	TWA: 0.00005 mg/m <sup>3</sup>	TWA: 0.001 mg/m <sup>3</sup>	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Nitric Acid 7697-37-2	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 0.5 ppm STEL: 1.3 mg/m <sup>3</sup>	TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>	TWA: 1.4 mg/m <sup>3</sup> STEL: 2.6 mg/m <sup>3</sup>
uranyl nitrate, hexahydrate 13520-83-7	-	-	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	TWA: 0.015 mg/m <sup>3</sup> STEL: 0.12 mg/m <sup>3</sup>
Lead 7439-92-1	TWA: 0.15 mg/m <sup>3</sup>	-	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> STEL: 0.15 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>
Indium 7440-74-6	-	-	-	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>	-
Ferric nitrate nonahydrate 7782-61-8	-	-	-	TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	-
Beryllium Oxycetate 19049-40-2	-	-	Sk*	-	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Nitric Acid 7697-37-2	TWA: 2 ppm STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	Ceiling: 2.6 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 2.6 mg/m <sup>3</sup> STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>



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uranyl nitrate, hexahydrate 13520-83-7	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	-	-	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>
Lead 7439-92-1	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.4 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>
Indium 7440-74-6	TWA: 0.1 mg/m <sup>3</sup>	-	-	TWA: 0.0001 mg/m <sup>3</sup> STEL: 0.0008 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>
Ferric nitrate nonahydrate 7782-61-8	TWA: 1 mg/m <sup>3</sup>	-	-	-	TWA: 1 mg/m <sup>3</sup>
Beryllium Oxyacetate 19049-40-2	STEL: 0.01 mg/m <sup>3</sup>	TWA: 0.0002 mg/m <sup>3</sup>	TWA: 0.005 mg/m <sup>3</sup> TWA: 0.002 mg/m <sup>3</sup> STEL: 0.025 mg/m <sup>3</sup> STEL: 0.01 mg/m <sup>3</sup>	-	TWA: 0.0002 mg/m <sup>3</sup>
Chemical name	Sweden		Switzerland		United Kingdom
Nitric Acid 7697-37-2	NGV: 0.5 ppm NGV: 1.3 mg/m <sup>3</sup> Bindande KGV: 1 ppm Bindande KGV: 2.6 mg/m <sup>3</sup>		TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 2 ppm STEL: 5 mg/m <sup>3</sup>		STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>
uranyl nitrate, hexahydrate 13520-83-7	-		TWA: 0.2 mg/m <sup>3</sup> Sk*		-
Lead 7439-92-1	NGV: 0.1 mg/m <sup>3</sup> NGV: 0.05 mg/m <sup>3</sup>		TWA: 0.1 mg/m <sup>3</sup> STEL: 0.8 mg/m <sup>3</sup>		TWA: 0.15 mg/m <sup>3</sup> STEL: 0.45 mg/m <sup>3</sup>
Indium 7440-74-6	NGV: 0.1 mg/m <sup>3</sup>		TWA: 0.1 mg/m <sup>3</sup>		TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>
Ferric nitrate nonahydrate 7782-61-8	-		TWA: 1 mg/m <sup>3</sup>		TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>
Beryllium Oxyacetate 19049-40-2	NGV: 0.0002 mg/m <sup>3</sup> NGV: 0.0006 mg/m <sup>3</sup> S+		TWA: 0.0006 mg/m <sup>3</sup> S+		TWA: 0.002 mg/m <sup>3</sup> STEL: 0.006 mg/m <sup>3</sup>

### Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Lead 7439-92-1	70 µg/100 mL - blood (Lead) - no restriction 0.075 mg/m <sup>3</sup> - air (Lead) - 40 hours per week 40 µg/100 mL - blood (Lead) - no restriction	Check 120 µg/100 mL RBC Erythrocyte protoporphyrin (blood - Ethylenediaminetetraacetic acid not provided) 30 µg/100 mL blood Lead (blood -	300 µg/L - blood (Lead) - not fixed 400 µg/L - blood (Lead) - not fixed	400 µg Pb/L - blood (Lead) - not critical 300 µg Pb/L - blood (Lead) - not critical 15 U/LE - blood (.delta.-Aminolevulinic acid dehydratase) - not critical 1.50 mg/LE - blood (Protoporphyrin in	13 µmol/mmol Creatinine (urine - 5-Aminolevulinic acid discretionary) 0.035 µmol/mmol Creatinine (urine - Coproporphyrin discretionary) 15 mg/g Creatinine (urine -



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		Ethylenediaminetetr aacetic acid not provided) 3.8 million/µL Erythrocytes (blood - Ethylenediaminetetr aacetic acid not provided) 12 g/dL Hemoglobin (blood - Ethylenediaminetetr aacetic acid not provided) 35 % Hematocrit (blood - Ethylenediaminetetr aacetic acid not provided) 10 mg/L (urine - .delta.-Aminolevulini c acid not provided) 3.2 million/µL Erythrocytes (blood - Ethylenediaminetetr aacetic acid not provided) 10 g/dL Hemoglobin (blood - Ethylenediaminetetr aacetic acid not provided) 30 % Hematocrit (blood - Ethylenediaminetetr aacetic acid not provided) 6 mg/L (urine - .delta.-Aminolevulini c acid not provided)		erythrocytes) - after exposure during 2-3 months (sample protected from light)	5-Aminolevulinic acid discretionary) 0.2 mg/g Creatinine (urine - Coproporphyrin discretionary) 0.4 mg/L (blood - Lead discretionary)
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Lead 7439-92-1	20 µg/100 mL (blood - Lead )	1.4 µmol/L (blood - Lead time of day does not matter) 50 µg/dL (blood - Lead ) 40 µg/dL (blood -	400 µg/L - blood (Lead) - 180 µg/L - blood (Lead) - indifferent sampling time 300 µg/L - blood	150 µg/L (whole blood - Lead no restriction) 150 µg/L - BAT (no restriction in steady state) blood	150 µg/L (whole blood - Lead no restriction)



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		Lead )	(Lead) - 200 µg/L - blood (Lead) - 100 µg/L - blood (Lead) -	30 µg/L - BAR (no restriction in steady state) blood 40 µg/L - BAR (no restriction in steady state) blood	
Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII	
Lead 7439-92-1	-	70 µg/100 mL (blood - Lead not critical) 40 µg/100 mL (blood - Lead not critical) 30 µg/100 mL (blood - Lead not critical)	60 Pb µg/100 mL (blood - end of workweek)	30 µg/100 mL - blood (Lead) - not critical	
Chemical name	Latvia	Luxembourg	Romania	Slovakia	
Lead 7439-92-1	30 µg/100 mL - blood (Lead) - 100 µg/g Creatinine - urine (Coproporphyrin) - 5 mg/g Creatinine - urine (Aminolevulinic acid) -	70 µg/100 mL - blood (Lead) - 0.072 mg/m <sup>3</sup> - blood (Lead) - 40 µg/100 mL - blood (Lead) -	150 µg/L - urine (Lead) - end of shift 70 µg/100 mL - blood (Lead) - end of shift 3 mg/cm - hair (Lead) - end of shift 10 mg/L - urine (.delta.-Aminolevulinic acid) - end of shift 300 µg/L - urine (Coproporphyrin) - end of shift 100 µg/100 mL Erythrocyte - blood (free Erythrocytes protoporphyrin) - end of shift	400 µg/L (blood - Lead not critical) 100 µg/L (blood - Lead not critical) 15 mg/L (urine - .delta.-Aminolevulinic acid not critical) 6 mg/L (urine - .delta.-Aminolevulinic acid not critical) 0.30 mg/L (urine - Coproporphyrins not critical)	
Chemical name	Slovenia	Spain	Switzerland	United Kingdom	
Lead 7439-92-1	400 µg/L - blood (Lead) - not relevant 300 µg/L - blood (Lead) - not relevant	70 µg/dL (blood - Lead not critical)	400 µg/L (whole blood - Lead no restrictions) 1.93 µmol/L (whole blood - Lead no restrictions) 100 µg/L (whole blood - Lead no restrictions) 0.48 µmol/L (whole blood - Lead no restrictions)	-	

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

### 8.2. Exposure controls



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## Personal protective equipment

<b>Eye/face protection</b>	If splashes are likely to occur, wear safety glasses with side-shields. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear protective Neoprene™ gloves. Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.
<b>Skin and body protection</b>	Long sleeved clothing. Wear suitable protective clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.
<b>Environmental exposure controls</b>	Do not allow into any sewer, on the ground or into any body of water.

## SECTION 9: Physical and chemical properties

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

<b>Physical state</b>	Liquid
<b>Appearance</b>	Liquid
<b>Colour</b>	colourless
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	0 °C	None known
<b>Initial boiling point and boiling range</b>	100 °C	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	100 °C	None known



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pH	No data available	None known
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	23 hPa	@ 20°C
Relative density	0.99821 g/cm <sup>3</sup> at 20 °C	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

## 9.2. Other information

9.2.1. Information with regards to physical hazard classes  
Not applicable 100 °C 100 °C

9.2.2. Other safety characteristics  
No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity No information available.

### 10.2. Chemical stability

Stability Stable under normal conditions.

#### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### 10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.



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## 10.5. Incompatible materials

**Incompatible materials** Oxidising agent. Strong acids. Strong bases.

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

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

#### Information on likely routes of exposure

##### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Redness. May cause redness and tearing of the eyes.

#### Numerical measures of toxicity

##### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-vapour) 265.00 mg/l

##### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric Acid			= 2500 ppm ( Rat ) 1 h ATE (vapours) = 2.65 mg/L
Lithium carbonate	= 525 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	> 2.17 mg/L ( Rat ) 4 h



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Indium	= 4200 mg/kg ( Rat )		
Ferric nitrate nonahydrate	= 3250 mg/kg ( Rat )		

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitisation** No information available.

**Germ cell mutagenicity** No information available.

## **Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	European Union
Beryllium Oxyacetate	Carc. 1B

**Reproductive toxicity** No information available.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Lead	Repr. 1A Lact.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 11.2. Information on other hazards





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## 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

## 11.2.2. Other information

**Other adverse effects** No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicity

**Unknown aquatic toxicity** Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Lithium carbonate	-	LC50: =30.3mg/L (96h, Oncorhynchus mykiss)	-	-
Lead	-	LC50: =0.44mg/L (96h, Cyprinus carpio) LC50: =1.17mg/L (96h, Oncorhynchus mykiss) LC50: =1.32mg/L (96h, Oncorhynchus mykiss)	-	EC50: =600µg/L (48h, water flea)

### 12.2. Persistence and degradability

**Persistence and degradability** No information available.

### 12.3. Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical name	Partition coefficient
Nitric Acid	-2.3

### 12.4. Mobility in soil

**Mobility in soil** No information available.

### 12.5. Results of PBT and vPvB assessment



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## PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Nitric Acid	The substance is not PBT / vPvB
Lithium carbonate	The substance is not PBT / vPvB
Lead	PBT assessment does not apply
Indium	The substance is not PBT / vPvB
Ferric nitrate nonahydrate	PBT assessment does not apply

## 12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

## 12.7. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

## SECTION 14: Transport information

### IATA

14.1 UN number or ID number UN3264  
14.2 UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions A3, A803  
ERG Code 8L

### IMDG

14.1 UN number or ID number UN3264  
14.2 UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)



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14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s., 8, III  
14.5 Marine pollutant NP  
14.6 Special precautions for user  
Special Provisions 223, 274  
EmS-No. F-A, S-B No information available  
14.7 Maritime transport in bulk according to IMO instruments No information available

### RID

14.1 UN number or ID number UN3264  
14.2 UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions 274  
Classification code C1

### ADR

14.1 UN number or ID number UN3264  
14.2 UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III, (E)  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions 274  
Classification code C1  
Tunnel restriction code (E)

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulations

##### France

##### Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Lead 7439-92-1	RG 1	-



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**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

## Netherlands

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Carcinogens	Netherlands - List of Reproductive Toxins
uranyl nitrate, hexahydrate	-	-	Development Category 2; except radioactive substances within the scope of Directive 96/29/Euratom
Lithium carbonate	-	-	Fertility Category 2 Development Category 1A Can be harmful via breastfeeding
Lead	-	-	Fertility Category 1A Development Category 1A Can be harmful via breastfeeding
Beryllium Oxyacetate	Present	-	-

## Poland

SDS created according to the following Polish regulation: Act of February 25, 2011 on chemical substances and their mixtures (Journal of Laws of 2018, item 143, as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency (EC) as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, as amended. Regulation of the Minister of Health of 10 August 2012 on the criteria and method of classifying chemical substances and their mixtures (Journal of Laws of 2012, item 1018). Regulation of the Minister of Health of 20 April 2012 on labeling packaging of hazardous substances and mixtures and some mixtures (Journal of Laws of 2012, item 445). Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the maximum allowable concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286). Announcement of the Minister of Economy, Labor and Social Policy of August 28, 2003 on the publication of the unified text of the Ordinance of the Minister of Labor and Social Policy on general health and safety at work regulations (Journal of Laws of 2003, No. 169, item 1650). Regulation of the Minister of Health of 30 December 2004 on occupational safety and health related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86). Act of December 14, 2012 on waste (Journal of Laws of 2013, item 21) Regulation of the Minister of Health of December 30, 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal U. of 2005, No. 11, item 86). Waste Act of



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December 14, 2012 (Journal of Laws of 2013, item 21). Act of 13 June 2013 on the management of packaging and packaging waste, Journal of Laws 2013, item 888). Government statement of September 24, 2002 - European Agreement on the International Carriage of Dangerous Goods by Road (ADR) (Journal of Laws No. 194, item 1629 and Journal of Laws of 2003, No. 207, item 2013 and 2014).

## European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

## Authorisations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

## DIRECTIVE (EU) 2021/1187 on the marketing and use of explosives precursors

Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9

Chemical name	RESTRICTED EXPLOSIVES PRECURSORS - ANNEX I	REPORTABLE EXPLOSIVES PRECURSORS - ANNEX II
Nitric Acid - 7697-37-2	3 %w/w	-

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Nitric Acid - 7697-37-2	75.	
Lead - 7439-92-1	72. 30. 63. 75.	

## Persistent Organic Pollutants

Not applicable

Chemical name	European Export/Import Restrictions per (EC) 649/2012 - Annex Number
Lead - 7439-92-1	I.1

## Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

## EU - Water Framework Directive (2000/60/EC)

Chemical name	EU - Water Framework Directive (2000/60/EC)
Lead - 7439-92-1	Priority substance

## EU - Environmental Quality Standards (2008/105/EC)



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Chemical name	EU - Environmental Quality Standards (2008/105/EC)
Lead - 7439-92-1	Priority substance

## International Inventories

<b>TSCA</b>	Complies under research and development exemption or is regulated by a different government agency.
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status
<b>ENCS</b>	Contact supplier for inventory compliance status
<b>IECSC</b>	Contact supplier for inventory compliance status
<b>KECL</b>	Contact supplier for inventory compliance status
<b>PICCS</b>	Contact supplier for inventory compliance status
<b>AIIC</b>	Contact supplier for inventory compliance status

## Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

## 15.2. Chemical safety assessment

**Chemical Safety Report** A Chemical Safety Assessment is not required for this substance

## **SECTION 16: Other information**

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Full text of H-Statements referred to under section 3**

H272 - May intensify fire; oxidiser  
H290 - May be corrosive to metals  
H300 - Fatal if swallowed  
H301 - Toxic if swallowed  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H330 - Fatal if inhaled  
H331 - Toxic if inhaled



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H335 - May cause respiratory irritation  
H350 - May cause cancer  
H351 - Suspected of causing cancer  
H360FD - May damage fertility. May damage the unborn child  
H362 - May cause harm to breast-fed children  
H372 - Causes damage to organs through prolonged or repeated exposure  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H411 - Toxic to aquatic life with long lasting effects  
H412 - Harmful to aquatic life with long lasting effects

### Legend

SVHC: Substances of Very High Concern for Authorisation:

### Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)  
Ceiling Maximum limit value Sk\* Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	On basis of test data
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method
Corrosive to metals	On basis of test data

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)



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EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

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**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

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**End of Safety Data Sheet**