

3 Composition/information on ingredients

tin lead	7440-31-5 7439-92-1	40 - 60 30 - 40	231-141-8 231-100-4	Not classified. Repr. Cat. 1; R61 Repr. Cat. 3; R62 Xn; R20/22 R33 N; R50/53 R43
rosin	8050-09-7	1 - 5	232-475-7	
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

The classifications listed, indicate the potential hazards of the ingredients

4. First-aid measures

First-aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Cuts should be treated promptly and covered.
- Eye contact** : Get medical attention if any damage to the eye is caused by the metal.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : No specific fire or explosion hazard.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials: metal oxide/oxides
- Special protective equipment for fire-fighters** : No special protection is required.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.
- Environmental precautions** : No specific hazard.
- Large spill** : Restack safely. Take care with items that are sharp or heavy. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Restack safely. Take care with items that are sharp or heavy.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Take care with items that are sharp or heavy.
- Storage** : Store in accordance with local regulations.
- Packaging materials**
- Recommended** : Use original container.

8. Exposure controls/personal protection

Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
Europe	
tin	ACGIH TLV (United States, 1/2008). TWA: 2 mg/m ³ 8 hour(s).
lead	EU OEL (Europe, 4/2006). Notes: Binding Limit value: 0.15 mg/m ³ 8 hour(s).
Sweden	
lead	AFS 2005:17 (Sweden, 6/2007). TWA: 0.05 mg/m ³ 8 hour(s). Form: respirable dust TWA: 0.1 mg/m ³ 8 hour(s). Form: total dust
Denmark	
lead	Arbejdstilsynet (Denmark, 3/2008). Notes: calculated as Pb TWA: 0.05 mg/m ³ , (calculated as Pb) 8 hour(s). Form: powder, dust, fume
Norway	
lead	Arbeidstilsynet (Norway, 11/2007). Reproductive toxin. Notes: calculated as Pb TWA: 0.05 mg/m ³ , (calculated as Pb) 8 hour(s). Form: dust and fume
France	
lead	INRS (France, 12/2007). Notes: Regulatory binding exposure limits TWA: 0.1 mg/m ³ 8 hour(s).
rosin	INRS (France, 12/2007). Notes: indicative exposure limits TWA: 0.1 mg/m ³ 8 hour(s).
Netherlands	
lead	EU OEL (Europe, 4/2006). Notes: Binding Limit value: 0.15 mg/m ³ 8 hour(s).
Germany	
lead	EU OEL (Europe, 4/2006). Notes: Binding Limit value: 0.15 mg/m ³ 8 hour(s).
Finland	
tin	Työterveyslaitos (Finland, 2002). TWA: 2 mg/m ³ 8 hour(s). Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007). Notes: calculated as Sn TWA: 2 mg/m ³ , (calculated as Sn) 8 hour(s).
lead	EU OEL (Europe, 4/2006). Notes: Binding Limit value: 0.15 mg/m ³ 8 hour(s).
United Kingdom (UK)	
tin	EH40-OES (United Kingdom (UK), 2002). TWA: 2 mg/m ³ 8 hour(s). STEL: 4 mg/m ³ 15 minute(s).
lead	EH40-OES (United Kingdom (UK), 2002). TWA: 0.15 mg/m ³ 8 hour(s). EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 0.15 mg/m ³ 8 hour(s).
rosin	EH40-MEL (United Kingdom (UK), 2002). Skin sensitiser. Inhalation sensitiser. TWA: 0.05 mg/m ³ 8 hour(s). Form: Rosin-based solder flux fume STEL: 0.15 mg/m ³ 15 minute(s). Form: Rosin-based solder flux fume
Austria	

8. Exposure controls/personal protection

tin	GKV MAK (Austria, 9/2007). STEL: 4 mg/m ³ , 4 times per shift, 15 minute(s). Form: inhalable fraction
lead	TWA: 2 mg/m ³ 8 hour(s). Form: inhalable fraction GKV MAK (Austria, 9/2007). STEL: 0.4 mg/m ³ , 4 times per shift, 15 minute(s). Form: inhalable fraction TWA: 0.1 mg/m ³ 8 hour(s). Form: inhalable fraction
Switzerland	
lead	SUVA (Switzerland, 1/2007). STEL: 0.8 mg/m ³ 15 minute(s). Form: inhalable dust TWA: 0.1 mg/m ³ 8 hour(s). Form: inhalable dust
Belgium	
tin	Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007). Absorbed through skin. TWA: 2 mg/m ³ 8 hour(s).
lead	Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007). Notes: as Pb TWA: 0.15 mg/m ³ , (as Pb) 8 hour(s). Form: dust and fume
Spain	
tin	INSHT (Spain, 1/2008). TWA: 2 mg/m ³ 8 hour(s).
lead	INSHT (Spain, 1/2008). TWA: 0.15 mg/m ³ 8 hour(s).
Turkey	
tin	NIOSH REL (United States, 6/2008). TWA: 2 mg/m ³ 10 hour(s).
lead	EU OEL (Europe, 4/2006). Notes: Binding Limit value: 0.15 mg/m ³ 8 hour(s).
rosin	NIOSH REL (United States, 6/2008). Notes: as formaldehyde TWA: 0.1 mg/m ³ , (as formaldehyde) 10 hour(s).
Czech Republic	
lead	178/2001 (Czech Republic, 12/2007). STEL: 0.2 mg/m ³ 15 minute(s). TWA: 0.05 mg/m ³ 8 hour(s).
rosin	178/2001 (Czech Republic, 12/2007). Skin sensitiser. TWA: 1 mg/m ³ 8 hour(s).
Ireland	
lead	NAOSH (Ireland, 8/2007). OELV-8hr: 0.15 mg/m ³ 8 hour(s).
Italy	
tin	ACGIH TLV (United States, 1/2008). TWA: 2 mg/m ³ 8 hour(s).
lead	Ministero della Salute (Italy, 4/2008). TWA: 0.15 mg/m ³ 8 hour(s).
Estonia	
lead	Sotsiaalminister (Estonia, 10/2007). TWA: 0.05 mg/m ³ 8 hour(s). Form: inhalable dust TWA: 0.1 mg/m ³ 8 hour(s). Form: total dust
Lithuania	
lead	Del Lietuvos Higienos Normos (Lithuania, 10/2007). TWA: 0.07 mg/m ³ 8 hour(s). Form: alveolar TWA: 0.15 mg/m ³ 8 hour(s). Form: respirable
Slovakia	
lead	Nariadenie Vlády Slovenskej republiky (Slovakia, 6/2007). TWA: 0.15 mg/m ³ 8 hour(s).
Hungary	

8. Exposure controls/personal protection

lead	EüM-SzCsM (Hungary, 12/2007). Skin sensitiser. Notes: as Pb PEAK: 0.6 mg/m ³ , (as Pb) 15 minute(s). Form: Respirable TWA: 0.15 mg/m ³ , (as Pb) 8 hour(s). Form: Respirable EüM-SzCsM (Hungary, 12/2007). Skin sensitiser. TWA: 0.05 mg/m ³ , (as Pb) 8 hour(s). Form: respirable dust PEAK: 0.2 mg/m ³ , (as Pb) 15 minute(s). Form: respirable dust
Poland	
tin	Ministra Pracy i Polityki Społecznej (Poland, 9/2007). Notes: calculated as Sn TWA: 2 mg/m ³ , (calculated as Sn) 8 hour(s). Form: smokes and dusts
lead	Ministra Pracy i Polityki Społecznej (Poland, 9/2007). Notes: calculated as Pb TWA: 0.05 mg/m ³ , (calculated as Pb) 8 hour(s).
Slovenia	
lead	Uradni list Republike Slovenije (Slovenia, 6/2007). TWA: 0.1 mg/m ³ 8 hour(s). Form: inhalable fraction
Latvia	
lead	LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007). STEL: 0.01 mg/m ³ 15 minute(s). TWA: 0.005 mg/m ³ 8 hour(s).
rosin	LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007). TWA: 4 mg/m ³ 8 hour(s).
Greece	
tin	PD 90/1999 (Greece, 8/2007). TWA: 2 mg/m ³ 8 hour(s).
lead	PD 90/1999 (Greece, 8/2007). TWA: 0.15 mg/m ³ 8 hour(s).
Portugal	
tin	Instituto Português da Qualidade (Portugal, 3/2007). TWA: 2 mg/m ³ 8 hour(s).
lead	Instituto Português da Qualidade (Portugal, 3/2007). TWA: 0.05 mg/m ³ 8 hour(s).

Exposure controls

- Occupational exposure controls** : No special ventilation requirements.
- Hygiene measures** : Wash thoroughly after handling.
- Respiratory protection** : Not applicable. Recommended: particulate filter EN 149:2001 FFP3
- Hand protection** : Use strong, cut-resistant gloves suitable for handling metals. <1 hours (breakthrough time): disposable vinyl
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: safety glasses with side-shields EN 166 1F
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall

9. Physical and chemical properties

General information

Appearance

Physical state : Solid.
Colour : Silvery.

Important health, safety and environmental information

Melting point : 183 to 188°C (361.4 to 370.4°F)
Relative density : 8
Solubility : Insoluble in the following materials: cold water and hot water.
VOC content : 0 % (w/w)

10. Stability and reactivity

Stability : The product is stable.
Conditions to avoid : No specific data.
Materials to avoid : No specific data.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

Skin contact : No known significant effects or critical hazards.
Acute toxicity

Over-exposure signs/symptoms

Target organs : Contains material which may cause damage to the following organs: blood, kidneys, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Product name	List name	Name on list	Classification	Notes
United Kingdom (UK) lead	UK Occupational Exposure Limits EH40 WEL	lead	Carc.	
Netherlands lead	Netherlands Reprotoxic Chemicals	lood Metallisch	Repro. fertility category 3, Dev. breast feeding (X), Dev. development category 1	
Germany lead	Germany TRGS905	Blei Metall, bioverfügbar	RF3, RE1	
France lead	France Occupational Exposure Limits	plomb Métallique	Carc. C1, Carc. C2, Carc. C3, Repro. R1, Repro. R2, Repro. R3	

11. Toxicological information

12. Ecological information

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
lead	-	Acute IC50 17.86 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <48 hours	48 hours
	-	Acute IC50 12.3 mg/L Marine water	Crustaceans - Amphipod - Ampelisca abdita	48 hours
	-	Acute IC50 11.3 mg/L Marine water	Crustaceans - Amphipod - Ampelisca abdita	48 hours
	-	Acute IC50 >6.8 mg/L Marine water	Crustaceans - Amphipod - Ampelisca abdita	48 hours
	-	Acute IC50 6.09 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <48 hours	48 hours
	-	Acute IC50 >2.5 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <48 hours	48 hours
	-	Acute LC50 1.17 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 145 mm	96 hours
	-	Acute LC50 38829 ppb Marine water	Fish - Inland silverside - Menidia beryllina	96 hours
	-	Acute LC50 26150 to 44761 ppb Marine water	Fish - Inland silverside - Menidia beryllina	96 hours
	-	Acute LC50 1.33 ppm Fresh water	Fish - common carp - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling) - 6.5 cm	96 hours
	-	Acute LC50 0.8 ppm Fresh water	Fish - common carp - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling) - 6.5 cm	96 hours

12. Ecological information

-	Acute LC50 0.44 ppm Fresh water	cm Fish - common carp - <i>Cyprinus carpio</i> - Juvenile (Fledgling, Hatchling, Weanling) - 3.5 cm	96 hours
-	Acute LC50 40000 ug/L Fresh water	Fish - <i>Goldfish</i> - <i>Carassius auratus</i>	96 hours
-	Acute LC50 29000 ug/L Fresh water	Fish - Smallmouth bass - <i>Micropterus dolomieu</i> - Fingerling	96 hours
-	Acute LC50 5100 ug/L Fresh water	Daphnia - Water flea - <i>Daphnia pulex</i> - <24 hours	48 hours
-	Acute LC50 5010 ug/L Marine water	Crustaceans - Brine shrimp - <i>Artemia salina</i>	48 hours
-	Acute LC50 4500 to 5500 ug/L Fresh water	Crustaceans - Water flea - <i>Simocephalus vetulus</i> - <24 hours	48 hours
-	Acute LC50 4460 ug/L Marine water	Crustaceans - Indian prawn - <i>Penaeus indicus</i> - 6 to 9 cm	48 hours
-	Acute LC50 4400 to 5300 ug/L Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - <24 hours	48 hours
-	Acute LC50 2800 ug/L Fresh water	Fish - Smallmouth bass - <i>Micropterus dolomieu</i> - Swim-up	96 hours
-	Acute LC50 2200 ug/L Fresh water	Fish - Smallmouth bass - <i>Micropterus dolomieu</i> - Swim-up	96 hours
-	Acute LC50 933 to 1200 ug/L Marine water	Crustaceans - Fleshy prawn - <i>Penaeus chinensis</i>	48 hours
-	Acute LC50 530 ug/L Fresh water	Daphnia - Water flea - <i>Ceriodaphnia reticulata</i> - <4 hours	48 hours

Biodegradability

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Methods of disposal	: The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
European waste catalogue (EWC)	: 06 04 05* wastes containing other heavy metals
Hazardous waste	: Yes.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Risk phrases	: This product is not classified according to EU legislation.
Product use	: Consumer applications, Industrial applications.

Other EU regulations

Additional warning phrases	: Contains rosin. May produce an allergic reaction. Safety data sheet available for professional user on request.
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France

Professional disease or diseases	: lead rosin	RG 1 65, 66
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Germany

Hazard class for water	: nwg Appendix No. 4
Technical instruction on air quality control	: TA-Luft Number 5.2.1: 61% TA-Luft Class II - Number 5.2.2: 39%

Italy

Emission control directive	: Not classified.
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16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe	: R61- May cause harm to the unborn child. R62- Possible risk of impaired fertility. R20/22- Also harmful by inhalation and if swallowed. R43- May cause sensitisation by skin contact. R33- Danger of cumulative effects. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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16. Other information

Full text of classifications referred to in sections 2 and 3 - Europe : Repr. Cat. 1 - Toxic to reproduction category 1
Repr. Cat. 3 - Toxic to reproduction category 3
Xn - Harmful
N - Dangerous for the environment

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Environmental, Health and Safety Manager

➤ Indicates information that has changed from previously issued version.

References

The Health and Safety At Work Act 1974, section 6.
Control of Substances Hazardous to Health (CoSHH) Regulations 2002 and its amendments.

Preparation contains solely TSCA and REACH 1907/2006 listed substances.

This safety data sheet has been prepared in accordance with the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 which implement EC Directives 1999/45/EC and 2001/58/EC and their amendments.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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