



SAFETY DATA SHEET

RADIATOR ENAMEL GLOSS AEROSOL

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

1.1. Product identifier

Product name : RADIATOR ENAMEL GLOSS AEROSOL

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

Product use : Aerosol.

1.3. Details of the supplier of the safety data sheet

ICI Paints AkzoNobel,
Wexham Road,
Slough,
Berkshire,
SL2 5DS, U.K.
Tel.: +44 (0) 333 222 71 71
www.hammerite.co.uk

e-mail address of person responsible for this SDS : hammerite.advice@akzonobel.com

1.4 Emergency telephone number

Telephone number : Emergency Telephone : Slough +44 (0) 1753 550000

Version : 11

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Aerosol 1, H222, H229

Eye Irrit. 2, H319

STOT SE 3, H336

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 0%

Ingredients of unknown ecotoxicity : 0%

See Section 16 for the full text of the H statements declared above.

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

2.2 Label elements

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 2: Hazards identification**Hazard pictograms****Signal word**

: Danger

Hazard statements

: H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.
 H319 - Causes serious eye irritation.
 H336 - May cause drowsiness or dizziness.

Precautionary statements**General**

: P102 - Keep out of reach of children.
 P101 - If medical advice is needed, have product container or label at hand.

Prevention

: P280 - Wear eye or face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P211 - Do not spray on an open flame or other ignition source.
 P271 - Use only outdoors or in a well-ventilated area.
 P261 - Avoid breathing dust or mist.
 P264 - Wash hands thoroughly after handling.
 P251 - Do not pierce or burn, even after use.

Response

: P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage

: P405 - Store locked up.
 P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

: acetone

Supplemental label elements

: Contains phthalic anhydride. May produce an allergic reaction. Repeated exposure may cause skin dryness or cracking.
 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

Special packaging requirements**Containers to be fitted with child-resistant fastenings**

: Not applicable.

Tactile warning of danger

: Not applicable.

2.3 Other hazards**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

: None known.

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥25 - ≤50	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119463258-33	≥10 - ≤25	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 EUH066	[1]
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119457273-39 EC: 265-150-3 CAS: 64742-48-9	≤1	Asp. Tox. 1, H304 EUH066	[1]
phthalic anhydride	EC: 201-607-5 CAS: 85-44-9 Index: 607-009-00-4	≤0.3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
Naphtha (petroleum), hydrotreated heavy	EC: 265-150-3 CAS: 64742-48-9	≤0.3	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 EUH066	[1]
(2-methoxymethylethoxy) propanol	REACH #: 01-2119450011-60 EC: 252-104-2 CAS: 34590-94-8	≤0.1	Not classified.	[2]
2-ethylhexanoic acid, manganese salt	EC: 240-085-3 CAS: 15956-58-8	≤0.1	Eye Irrit. 2, H319 Repr. 2, H361 STOT RE 2, H373 Aquatic Chronic 2, H411	[1] [2]
2-butoxyethanol	EC: 203-905-0 CAS: 111-76-2 Index: 603-014-00-0	<0.1	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

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

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains phthalic anhydride. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 5: Firefighting measures****5.3 Advice for firefighters**

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or watercourses.

Information on fire and explosion protection
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 7: Handling and storage**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonne	500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters**Occupational exposure limits**

Product/ingredient name	Exposure limit values
acetone	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 3620 mg/m ³ 15 minutes. STEL: 1500 ppm 15 minutes. TWA: 500 ppm 8 hours. TWA: 1210 mg/m ³ 8 hours.
phthalic anhydride	EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser. STEL: 12 mg/m ³ 15 minutes. TWA: 4 mg/m ³ 8 hours.
(2-methoxymethylethoxy)propanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. TWA: 308 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
2-ethylhexanoic acid, manganese salt	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 0.5 mg/m ³ , (as Mn) 8 hours.
2-butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 50 ppm 15 minutes. TWA: 25 ppm 8 hours. STEL: 246 mg/m ³ 15 minutes. TWA: 123 mg/m ³ 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 8: Exposure controls/personal protection**

of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
2-methoxymethylethoxy)propanol	DNEL	Long term Oral	0.33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	37.2 mg/m ³	General population	Systemic
2-butoxyethanol	DNEL	Long term Dermal	121 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	283 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	308 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	6.3 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	26.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	59 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	75 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	89 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	89 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	98 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	147 mg/m ³	General population	Local
	DNEL	Short term Inhalation	246 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	426 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	1091 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Use safety eyewear designed to protect against splash of liquids.

Skin protection**Hand protection**

Gloves :

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 8: Exposure controls/personal protection**

When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton ® or Nitrile, thickness ≥ 0.38 mm.

When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended.

Recommended gloves: Nitrile, thickness ≥ 0.12 mm.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

- Body protection** : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

OLD LEAD-BASED PAINTS:

When surfaces are to be prepared for painting, account should be taken of the age of the property and the possibility that lead-pigmented paint might be present. There is a possibility that ingestion or inhalation of scrapings or dust arising from the preparation work could cause health effects. As a working rule you should assume that this will be the case if the age of the property is pre 1960.

Where possible wet sanding or chemical stripping methods should be used with surfaces of this type to avoid the creation of dust. When dry sanding cannot be avoided, and effective local exhaust ventilation is not available, it is recommended that a dust respirator is worn, that is approved for use with lead dusts, and its type selected on the basis of the COSHH assessment, taking into account the Workplace Exposure Limit for lead in air. Furthermore, steps should be taken to ensure containment of the dusts created, and that all practicable measures are taken to clean up thoroughly all deposits of dusts in and around the affected area.

Respiratory protection in case of dust or spray mist formation. (particle filter EN143 type P2) Respiratory protection in case of vapour formation. (half mask with combination filter A2-P2 til concentrations of 0,5 Vol%.)

The current Control of Lead at Work Regulations approved code of practice should be consulted for advice on protective clothing and personal hygiene precautions. Care should also be taken to exclude visitors, members of the household and especially children from the affected area, during the actual work and the subsequent clean up operations. All scrapings, dust, etc. should be disposed of by the professional painting contractor as Hazardous Waste.

Extra precautions will also need to be taken when burning off old lead-based paints because fumes containing lead will be produced. It is recommended that a respirator, approved for use with particulate fumes of lead is selected on the basis of the COSHH assessment, taking into account the Workplace Exposure Limit for lead in air. Similar precautions to those given above about sanding should be taken with reference to protective clothing, disposal of scrapings and dusts, and exclusion of other personnel and especially children from the building during actual work and the subsequent clean up operations.

Avoid the inhalation of dust. Wear suitable face mask if dry sanding. Special precautions should be taken during surface preparation of pre-1960s paint surfaces over wood and metal as they may contain harmful lead.

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 8: Exposure controls/personal protection****OLD LEAD-BASED PAINTS:**

When surfaces are to be prepared for painting, account should be taken of the age of the property and the possibility that lead-pigmented paint might be present. There is a possibility that ingestion or inhalation of scrapings or dust arising from the preparation work could cause health effects. As a working rule you should assume that this will be the case if the age of the property is pre 1960.

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Avoid the inhalation of dust. Wear suitable face mask if dry sanding. Special precautions should be taken during surface preparation of pre-1960s paint surfaces over wood and metal as they may contain harmful lead.

Environmental exposure controls : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state	: Liquid.
Colour	: Various: See label.
Odour	: Not available.
Odour threshold	: Not available.
pH	: <input checked="" type="checkbox"/> Not applicable.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: 34°C
Flash point	: Closed cup: -18°C
Evaporation rate	: Not available.

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 9: Physical and chemical properties**

Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: 0.761
Solubility(ies)	: Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 0.26 cm ² /s Kinematic (40°C): 0.29 cm ² /s
Explosive properties	: Not available.
Oxidising properties	: Not available.
9.2. Other information	
Solubility in water	: Not available.
Type of aerosol	: Spray
Heat of combustion	: 8.607 kJ/g

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products.
10.5 Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
10.6 Hazardous decomposition products	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains phthalic anhydride. May produce an allergic reaction.

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 11: Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Intraperitoneal	Mouse	1297 mg/kg	-
	LD50 Intravenous	Rat	5500 mg/kg	-
	LD50 Oral	Mouse	3 g/kg	-
	LD50 Oral	Rabbit	5340 mg/kg	-
	LD50 Oral	Rat	5800 mg/kg	-
	LD50 Oral	Rat	5800 mg/kg	-
	LDLo Dermal	Rabbit	20 mL/kg	-
	LDLo Intraperitoneal	Dog	8 g/kg	-
	LDLo Intraperitoneal	Rat	500 mg/kg	-
	LDLo Intravenous	Mouse	4 g/kg	-
	LDLo Intravenous	Rabbit	1576 mg/kg	-
	LDLo Oral	Dog	8 g/kg	-
	LDLo Oral	Dog	8000 mg/kg	-
	LDLo Oral	Human	714 mg/kg	-
	LDLo Route of exposure unreported	Man - Male	1159 mg/kg	-
	LDLo Subcutaneous	Dog	5 g/kg	-
	LDLo Subcutaneous	Guinea pig	5 g/kg	-
	TDLo Intraperitoneal	Rat	1452 mg/kg	-
	TDLo Oral	Mammal - species unspecified	3.49 g/kg	-
	TDLo Oral	Man - Male	2857 mg/kg	-
TDLo Oral	Man - Male	2857 mg/kg	-	
TDLo Oral	Rat	5 mL/kg	-	
Hydrocarbons,C10-C13,n-alkanes,isoalkanes,cyclics,<2%aromatics	LC50 Inhalation Vapour	Rat	8500 mg/m ³	4 hours
phthalic anhydride	LD50 Oral	Rat	>6 g/kg	-
	LD Intratracheal	Rat	>30 mg/kg	-
	LD50 Dermal	Rabbit	>10000 mg/kg	-
	LD50 Intraperitoneal	Guinea pig	100 mg/kg	-
	LD50 Oral	Cat	800 mg/kg	-
	LD50 Oral	Mouse	1500 mg/kg	-
	LD50 Oral	Rat	1530 mg/kg	-
	LD50 Oral	Rat	1530 mg/kg	-
	LD50 Rectal	Mouse	400 mg/kg	-
	LDLo Oral	Mouse	1000 mg/kg	-
	LDLo Oral	Rat	1500 mg/kg	-
(2-methoxymethylethoxy) propanol	TDLo Ocular	Rabbit	100 pph	-
	LD50 Oral	Rat	5400 uL/kg	-
2-butoxyethanol	LC50 Inhalation Gas.	Mouse	700 ppm	7 hours
	LD50 Dermal	Guinea pig	230 uL/kg	-
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Intraperitoneal	Mouse	536 mg/kg	-
	LD50 Intraperitoneal	Rabbit	220 mg/kg	-
	LD50 Intraperitoneal	Rat	220 mg/kg	-
	LD50 Intravenous	Mouse	1130 mg/kg	-
	LD50 Intravenous	Rabbit	252 mg/kg	-
	LD50 Intravenous	Rat	307 mg/kg	-
	LD50 Oral	Guinea pig	1200 mg/kg	-
	LD50 Oral	Mouse	1230 mg/kg	-
	LD50 Oral	Mouse	1167 mg/kg	-
	LD50 Oral	Rabbit	300 mg/kg	-
	LD50 Oral	Rabbit	320 mg/kg	-
	LD50 Oral	Rat	917 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-
	LD50 Route of exposure unreported	Mammal - species unspecified	1500 mg/kg	-
	LD50 Route of exposure unreported	Mouse	1050 mg/kg	-

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 11: Toxicological information

unreported LD50 Route of exposure	Rat	917 mg/kg	-
unreported LDLo Oral	Human	143 mg/kg	-
LDLo Oral	Rat	1500 mg/kg	-
LDLo Subcutaneous	Mouse	500 mg/kg	-
TDL0 Intraperitoneal	Mammal - species unspecified	100 mg/kg	-
TDL0 Oral	Man - Male	132 mg/kg	-
TDL0 Oral	Rat	500 mg/kg	-
TDL0 Oral	Woman - Female	600 mg/kg	-
TDL0 Oral	Woman - Female	7813 uL/kg	-
TDL0 Route of exposure unreported	Rat	250 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
phthalic anhydride	500	N/A	N/A	N/A	N/A
2-butoxyethanol	500	N/A	N/A	N/A	0.5

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
phthalic anhydride	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 50 milligrams	-
(2-methoxymethylethoxy) propanol	Eyes - Mild irritant	Human	-	8 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
2-butoxyethanol	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 11: Toxicological information

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
acetone	Category 3	-	Narcotic effects
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Category 3	-	Narcotic effects
phthalic anhydride	Category 3	-	Respiratory tract irritation
Naphtha (petroleum), hydrotreated heavy	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1
Naphtha (petroleum), hydrotreated heavy	ASPIRATION HAZARD - Category 1

Other information : Not available.

SECTION 12: Ecological information**12.1 Toxicity**

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as hazardous to the environment.

Product/ingredient name	Result	Species	Exposure
acetone	Acute EC50 11493300 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 11727900 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 7550000 µg/l Fresh water	Crustaceans - Asellus aquaticus	48 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 8098000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 7460000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 7810000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 8800000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 7280000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 8120000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 6210000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Acute LC50 8000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Skeletonema costatum	72 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Skeletonema costatum	96 hours
	Chronic NOEC 0.5 ml/L Marine water	Algae - Karenia brevis	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Chydoridae	21 days
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Maxillopoda	21 days
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Bosminidae	21 days
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Macrothricidae	21 days
	Chronic NOEC 1 g/L Fresh water	Daphnia - Daphnia magna	21 days

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 12: Ecological information

phthalic anhydride	Chronic NOEC 1 g/L Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Fundulus heteroclitus	4 weeks
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Fundulus heteroclitus	4 weeks
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Fundulus heteroclitus	4 weeks
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
	Acute EC50 41400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
2-butoxyethanol	Acute EC50 78530 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 147 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1490000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours	

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.23	-	low
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	-	10 to 2500	high
phthalic anhydride	1.6	3.4	low
Naphtha (petroleum), hydrotreated heavy (2-methoxymethylethoxy) propanol	-	10 to 2500	high
propanol	0.004	-	low
2-ethylhexanoic acid, manganese salt	-	2.96	low
2-butoxyethanol	0.81	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

RADIATOR ENAMEL GLOSS AEROSOL**SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Disposal considerations : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Type of packaging	European waste catalogue (EWC)
CEPE Paint Guidelines	15 01 10* packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

Information pertaining to IATA and ADN is considered not relevant since the material is not packaged in the correct approved packaging required of these methods of transport.

	ADR	IMDG
14.1 UN number	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS
14.3 Transport hazard class(es) Class	2	2.1
Subsidiary class	-	-
14.4 Packing group	Not applicable.	Not applicable.
14.5 Environmental hazards Marine pollutant	No.	No.

RADIATOR ENAMEL GLOSS AEROSOL		
Information pertaining to IATA and ADN is considered not relevant since the material is not packaged in the correct approved packaging required of these methods of transport.		
Marine pollutant substances		Not available.
14.6 Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	
HI/Kemler number	Not applicable.	
Emergency schedules (EmS)		F-D,S-U
14.7 Transport in bulk according to IMO instruments	: Not applicable.	
Additional information	Tunnel code (D)	-

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed, or the component present is below its threshold.

Substances of very high concern

None of the components are listed, or the component present is below its threshold.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC for Ready-for-Use Mixture : Not applicable.

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Aerosol dispensers :

3

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 15: Regulatory information

Extremely flammable

Seveso Directive

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

CEPE code : 1

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229 Eye Irrit. 2, H319 STOT SE 3, H336	On basis of test data Calculation method Calculation method

Full text of abbreviated H statements

H222, H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Date of issue/Date of revision : 10-6-2021

Page: 17/18

RADIATOR ENAMEL GLOSS AEROSOL

SECTION 16: Other information

H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

[Full text of classifications \[CLP/GHS\]](#)

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aerosol 1	AEROSOLS - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Notice to reader

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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