

SAFETY DATA SHEET

Radiator Enamel

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

1.1 Product identifier

Product name : Radiator Enamel
Product description : Aerosol. Paint.
Product type : Aerosol.

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

Not applicable.

1.3 Details of the supplier of the safety data sheet

Rust-Oleum Corporation
Portobello Industrial Estate
Birtley
County Durham
United Kingdom
DH3 2RE

Telephone no.: +44 (0) 191 4106611

Fax no.: +44 (0) 191 4920125

e-mail address of person responsible for this SDS : rpmeurohas@ro-m.com

1.4 Emergency telephone number

Telephone number : +44 (0) 207 858 1228
Hours of operation : 24 / 7

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]

Flam. Aerosol 1, H222

Skin Irrit. 2, H315

Eye Irrit. 2, H319

STOT SE 3, H336

Aquatic Chronic 3, H412

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F+; R12
Xi; R36
R66, R67
R52/53

Physical/chemical hazards : Extremely flammable.

Human health hazards : Irritating to eyes. Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

Environmental hazards : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 2: Hazards identification

See Section 16 for the full text of the R phrases or H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

Extremely flammable aerosol.
Causes serious eye irritation.
Causes skin irritation.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General :

Read label before use. If medical advice is needed: Have product container or label at hand.

Prevention :

Do not spray on an open flame or other ignition source. Avoid breathing vapour or spray. Wear protective gloves and eye protection: gloves: natural rubber (latex) or nitrile rubber , safety glasses with side-shields. Avoid release to the environment.

Response :

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. IF ON SKIN: Wash with plenty of soap and water.

Storage :

Store locked up.

Disposal :

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

Supplemental label elements :

Pressurized container: may burst if heated. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Pressurized container: Do not pierce or burn, even after use. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Keep out of the reach of children.

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

Other hazards which do not result in classification :

None known.

SECTION 3: Composition/information on ingredients

Substance/mixture :

Mixture

Radiator Enamel

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
liquefied petroleum gas	REACH #: - EC: 270-704-2 CAS: 68476-85-7 Index: 649-202-00-6	25 - <35	F+; R12	Flam. Gas 1, H220	[2]
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	20 - <25	F; R11 Xi; R36 R66, R67	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1] [2]
xylene (mixture of isomeres)	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	12.5 - <20	R10 Xn; R20/21 Xi; R38	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	[1] [2]
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%)	REACH #: 01-2119458049-33 EC: 265-185-4 CAS: 64742-82-1 Index: 649-330-00-2	2.5 - <10	R10 Xn; R65 R67 N; R51/53	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1] [2]
aluminium powder (stabilized)	EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1	1 - <5	F; R11, R15	Flam. Sol. 1, H228 Water-react. 2, H261	[2]
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 265-199-0 CAS: 64742-95-6 Index: 649-356-00-4	1 - <2.5	R10 Xn; R65 Xi; R37 R66, R67 N; R51/53	Flam. Liq. 3, H226 STOT SE 3, H335 and H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

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 or vPvBs 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

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

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

: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

SECTION 4: First aid measures

- 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. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
- 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. 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. 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.

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 thermal decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

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.
- Additional information** : Pressurized container: may burst if heated. Bursting aerosol containers may be propelled from a fire at high speed. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight.

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 Section 8 for additional information on hygiene measures.

- 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 materials 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). Do not allow to enter drains or watercourses. Preferably clean with a detergent. Avoid using solvents. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

- 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

- 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.
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).

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.

- 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. Do not store above the following temperature: 35°C (95°F). 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

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SECTION 7: Handling and storage

upright to prevent leakage.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
liquefied petroleum gas	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 2180 mg/m ³ 15 minutes. STEL: 1250 ppm 15 minutes. TWA: 1750 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.
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.
xylene (mixture of isomeres)	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 441 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%)	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 850 mg/m ³ , (as turpentine) 15 minutes. Form: Vapour TWA: 566 mg/m ³ , (as turpentine (100 ppm)) 8 hours. Form: Vapour
aluminium powder (stabilized)	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: inhalable dust TWA: 4 mg/m ³ 8 hours. Form: respirable dust

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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%)	DNEL	Short term Inhalation	1300 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	1200 mg/m ³	Consumers	Systemic
	DNEL	Long term Inhalation	330 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	44 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	71 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral, Dermal	26 mg/kg bw/day	Consumers	Systemic

SECTION 8: Exposure controls/personal protection

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 : Safety glasses with side shields. (EN166)

Skin protection

Hand protection

For prolonged or repeated handling, use gloves: nitrile.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: neoprene.

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374-3 : 2003

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres. (EN 1149-1)

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.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Recommended: organic vapour (Type A) and particulate filter. (EN 140)

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. [Aerosol.]
Colour	: Various
Odour	: Solvent-like [Slight]
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: -70°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Slightly flammable in the presence of the following materials or conditions: shocks and mechanical impacts. Container explosion may occur under fire conditions or when heated. Vapour may travel a considerable distance to source of ignition and flash back.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Upper/lower flammability or explosive limits	: Lower: 0.8% Upper: 13%
Vapour pressure	: >400 kPa [room temperature]
Vapour density	: >1 [Air = 1]
Relative density	: 0.73
Solubility(ies)	: Partially soluble in the following materials: cold water and hot water.
Solubility in water	: Not available.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: 405°C
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.
Oxidising properties	: Not available.

9.2 Other information

Aerosol product

Type of aerosol	: Spray
Heat of combustion	: -6.341 kJ/g

No additional information.

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** : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. 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.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Oral	Rat	5800 mg/kg	-
xylene (mixture of isomeres)	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
hydrocarbons, C9-C12, n-/iso-/ cyclo-alkanes, aromatics (2-25%)	LC50 Inhalation Vapour	Rat	>14 mg/l	4 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
hydrocarbons, aromatic, C9	LD50 Oral	Rat	>6500 mg/kg	-
	LD50 Oral	Mouse	8400 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

SECTION 11: Toxicological information

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	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
xylene (mixture of isomeres)	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
hydrocarbons, aromatic, C9	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-

Conclusion/Summary

Skin : Causes skin irritation.
Eyes : Causes serious eye irritation.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
hydrocarbons, aromatic, C9	OECD 471	Subject: Bacteria	Negative

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Unreported	-

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
acetone	Category 3	Not applicable.	Narcotic effects
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%)	Category 3	Not applicable.	Narcotic effects
hydrocarbons, aromatic, C9	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

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SECTION 11: Toxicological information

Product/ingredient name	Result
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%) hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
acetone	Acute LC50 8.64 to 8098 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 10 mg/l Fresh water	Daphnia spec. - Daphnia magna	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 7.88 to 7280 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia spec. - Daphnia magna - Neonate	21 days
xylene (mixture of isomeres)	Acute LC50 8.5 mg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 20.87 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13.4 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 16.94 mg/l Fresh water	Fish - Carassius auratus	96 hours
hydrocarbons, C9-C12, n-/ iso-/ cyclo-alkanes, aromatics (2-25%)	Acute EC50 4 to 10 mg/l	Daphnia spec.	48 hours
	Acute IC50 1 to 10 mg/l	Algae	72 hours
	Acute LC50 10 to 30 mg/l	Fish	96 hours
	Acute LC50 10 to 100 mg/l	Micro-organism	96 hours
	Chronic NOEC 1 to 10 mg/l	Daphnia spec.	-
	Chronic NOEC 1 to 10 mg/l	Fish	-
aluminium powder (stabilized)	Acute LC50 260 to 310 µg/l Fresh water	Fish - Ctenopharyngodon idella - Fry	96 hours
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
hydrocarbons, aromatic, C9	Acute EC50 19 mg/l	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 3.2 mg/l	Daphnia spec.	48 hours
	Acute LC50 21 mg/l	Daphnia spec.	24 hours
	Acute LC50 9.22 mg/l	Fish	96 hours

Conclusion/Summary : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
xylene (mixture of isomeres)	-	90 % - Readily - 5 days	-	-

Conclusion/Summary : Not available.

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SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetone	-	-	Readily
xylene (mixture of isomeres)	-	-	Readily
hydrocarbons, C9-C12, n-/iso-/ cyclo-alkanes, aromatics (2-25%)	-	75%; 28 day(s)	Readily
hydrocarbons, aromatic, C9	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.27 to 0.58	-	low
xylene (mixture of isomeres)	3.16	-	low
hydrocarbons, C9-C12, n-/iso-/ cyclo-alkanes, aromatics (2-25%)	3.7 to 6.7	500	high
hydrocarbons, aromatic, C9	3.7 to 4.5	-	high

12.4 Mobility in soil

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

Mobility : Volatile. This product is likely to volatilise rapidly into the air because of its high vapour pressure.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

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 : Yes.

Disposal considerations : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is: 20 01 27* paint, inks, adhesives and resins containing dangerous substances.

If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

Waste code	Waste designation
20 01 27*	paint, inks, adhesives and resins containing dangerous substances

Packaging

Radiator Enamel

SECTION 13: Disposal considerations

- 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. Not emptied containers are hazardous waste.

Type of packaging Spraycans	European waste catalogue (EWC) 20 01 22 spraycans
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- 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

	ADR/RID	IMDG	IATA
14.1 UN number	1950 LQ	1950 LQ	1950
14.2 UN proper shipping name	AEROSOLS Flammable [Limited quantity]	AEROSOLS Flammable [Limited quantity]	AEROSOLS, Flammable
14.3 Transport hazard class(es)	-	-	2.1 
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.
Additional information	<p>Limited quantity: LQ2</p> <p>Remarks: (< 5L:) Limited Quantity - ADR/IMDG 3.4</p> <p>ADR Tunnel code: (D)</p>	<p>Emergency schedules (EmS): F-D + S-U</p> <p>Remarks: Limited Quantity - ADR/IMDG 3.4</p>	<p>Passenger and Cargo Aircraft Quantity limitation: 75 kg Packaging instructions: 203</p> <p>Cargo Aircraft Only Quantity limitation: 150 kg Packaging instructions: 203</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 30 kg Packaging instructions: Y 203</p>

- 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.

SECTION 15: Regulatory information

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

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

CN code : 3208 10 90

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

Annex XIV - List of substances subject to authorisation

Annex XIV

Radiator Enamel

SECTION 15: Regulatory information

None of the components are listed.

Substances of very high concern

None of the components are listed.

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.

Europe inventory : All components are listed or exempted.

Integrated pollution prevention and control list (IPPC) - Air : Listed

Integrated pollution prevention and control list (IPPC) - Water : Listed

Aerosol dispensers :

3

Extremely flammable

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ 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
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Aerosol 1, H222	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
STOT SE 3, H336	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of abbreviated H statements : H220 Extremely flammable gas.
 H222 Extremely flammable aerosol.
 H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H228 Flammable solid.
 H261 In contact with water releases flammable gases.
 H304 May be fatal if swallowed and enters airways.

SECTION 16: Other information

H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation. May cause drowsiness or dizziness.
 and
 H336
 H336 May cause drowsiness or dizziness.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] : Acute Tox. 4, H312 ACUTE TOXICITY: SKIN - Category 4
 Acute Tox. 4, H332 ACUTE TOXICITY: INHALATION - Category 4
 Aquatic Chronic 2, H411 AQUATIC TOXICITY (CHRONIC) - Category 2
 Aquatic Chronic 3, H412 AQUATIC TOXICITY (CHRONIC) - Category 3
 Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
 Flam. Aerosol 1, H222 FLAMMABLE AEROSOLS - Category 1
 Flam. Gas 1, H220 FLAMMABLE GASES - Category 1
 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3
 Flam. Sol. 1, H228 FLAMMABLE SOLIDS - Category 1
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
 STOT SE 3, H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation and Narcotic effects] - Category 3
 STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3
 Water-react. 2, H261 SUBSTANCES AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES - Category 2

Full text of abbreviated R phrases : R12- Extremely flammable.
 R11- Highly flammable.
 R15- Contact with water liberates extremely flammable gases.
 R10- Flammable.
 R20/21- Harmful by inhalation and in contact with skin.
 R65- Harmful: may cause lung damage if swallowed.
 R36- Irritating to eyes.
 R37- Irritating to respiratory system.
 R38- Irritating to skin.
 R66- Repeated exposure may cause skin dryness or cracking.
 R67- Vapours may cause drowsiness and dizziness.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD] : F+ - Extremely flammable
 F - Highly flammable
 Xn - Harmful
 Xi - Irritant
 N - Dangerous for the environment

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Notice to reader

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SECTION 16: Other information

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.