



SAFETY DATA SHEET

Engine and Wheel Concentrate (Radiance)

According to Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, February 2016

SECTION 1: Identification: Product identifier and chemical identity

Product identifier

Product name Engine and Wheel Concentrate (Radiance)

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

Application Car maintenance product. - Engine cleaner. - Wheel Cleaner

Uses advised against For professional use only. This product is not recommended for any industrial, professional or consumer use other than the Identified uses above.

Details of the supplier of the safety data sheet

Supplier Autosmart Australia
11 Darrambal Close
Rathmines
NSW 2283
Australia
www.autosmartaustralia.com.au
Tel: 02 49 75 14 88 (Mon to Fri, 08:00 - 16:00 AEST) (General Information. Transport Information. Mild Medical Information)
autosmart@autosmartaustralia.com.au

Contact Person Mr. Russell Butler

Emergency telephone number

Emergency telephone Emergency No: +44 7808 971321 (24hrs) (Autosmart International, UK)
General Information. Transport Information. Mild medical Information:-
Tel: 02 49 75 14 88 (Mon to Fri, 08:00 - 16:00 AEST)

National emergency telephone number Poison Information Hotline: 13 11 26

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

Physical hazards Met. Corr. 1 - H290

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318

Environmental hazards Aquatic Acute 3 - H402 Aquatic Chronic 3 - H412

Label elements

Pictogram



Signal word DANGER

Engine and Wheel Concentrate (Radiance)

Hazard statements	H314 Causes severe skin burns and eye damage. H412 Harmful to aquatic life with long lasting effects. H290 May be corrosive to metals.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations.
Contains	SODIUM HYDROXIDE, 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

Other hazards

This product does not contain any substances classified as PBT (persistent, bioaccumulative and toxic) or vPvB (very persistent and very bioaccumulative).

SECTION 3: Composition and information on ingredients

Mixtures

SODIUM HYDROXIDE 5<10% CAS number: 1310-73-2 Substance with a Community workplace exposure limit.
Classification Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts 3<5% CAS number: 97862-59-4
Classification Eye Dam. 1 - H318 Aquatic Chronic 3 - H412

Engine and Wheel Concentrate (Radiance)

2-BUTOXYETHANOL	2<3%
CAS number: 111-76-2	
Substance with a Community workplace exposure limit.	
Classification	
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Pine Oil	0.5<0.7%
CAS number: 8002-09-3	
Classification	
Flam. Liq. 3 - H226	
Skin Irrit. 2 - H315	
Skin Sens. 1 - H317	
Asp. Tox. 1 - H304	
Aquatic Chronic 2 - H411	
LIMONENE	0.2<0.5%
CAS number: 138-86-3	
M factor (Acute) = 1	
M factor (Chronic) = 1	
Classification	
Flam. Liq. 3 - H226	
Skin Irrit. 2 - H315	
Skin Sens. 1 - H317	
Aquatic Acute 1 - H400	
Aquatic Chronic 1 - H410	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

Description of first aid measures

General information

Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

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Ingestion	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin Contact	It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.
Ingestion	May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.

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Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters

Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to Australia/New Zealand Standards AS/NZS 4967 (for clothing) AS/NZS 1801 (for helmets), AS/NZS 4821 (for protective boots), AS/NZS 1801 (for protective gloves) will provide a basic level of protection for chemical incidents.

Hazchem Code

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SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

Environmental precautions

Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Neutralise with acid. Caution. May generate heat. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Reference to other sections

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage, including how the chemical may be safely used

Precautions for safe handling

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Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Store away from the following materials: Acids. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Store in corrosive resistant container with a resistant inner liner. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class

Corrosive storage.

Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.

SECTION 8: Exposure controls and personal protection

Control parameters

Occupational exposure limits

SODIUM HYDROXIDE

Ceiling value: 2 mg/m³

2-BUTOXYETHANOL

Long-term exposure limit (8-hour TWA): 20 ppm 96.9 mg/m³

Short-term exposure limit (15-minute): 50 ppm 242 mg/m³

Sk

Sk = Absorption through the skin may be a significant source of exposure.

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts (CAS: 97862-59-4)

Ingredient comments

No exposure limits known for ingredient(s).

Exposure controls

Protective equipment



Engine and Wheel Concentrate (Radiance)

Appropriate engineering controls	Provide adequate ventilation. Personal, workplace environment 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. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with Australia/New Zealand Standard AS/NZS 1337. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with Australia/New Zealand Standard AS/NZS 2161. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and complies with Australia/New Zealand Standard AS/NZS 1716. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with Australia/New Zealand Standard AS/NZS 1716. Full face mask respirators with replaceable filter cartridges should comply with Australia/New Zealand Standard AS/NZS 1716. Half mask and quarter mask respirators with replaceable filter cartridges should comply with Australia/New Zealand Standard AS/NZS 1716.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Store in a demarcated bunded area to prevent release to drains and/or watercourses.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Fluorescent. Green.
Odour	Pine.
Odour threshold	Not available.

Engine and Wheel Concentrate (Radiance)

pH	pH (concentrated solution): 13.8 pH (diluted solution): 12.5 @ 1%
Melting point	~ 0°C
Initial boiling point and range	~ 100°C @ 760 mm Hg
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability Limit - Lower(%)	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	~ 1.080 @ @ 20°C
Solubility(ies)	Soluble in water. Miscible with water.
Partition coefficient	: < 0
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not available.
Viscosity	~ 1 cSt @ 20°C
Oxidising properties	Does not meet the criteria for classification as oxidising.
Comments	Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.
Volatile organic compound	This product contains a maximum VOC content of 2.5 %.

SECTION 10: Stability and reactivity

Reactivity	May be corrosive to metals.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	Acid anhydrides. Acids. Phenols, cresols. Mild steel. Stainless steel. Aluminium. May be corrosive to metals.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

ATE oral (mg/kg) 63,725.49

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Engine and Wheel Concentrate (Radiance)

ATE dermal (mg/kg)	53,921.57
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
ATE inhalation (vapours mg/l)	539.22
<u>Skin corrosion/irritation</u>	
Animal data	Skin Corr. 1A - H314 Causes severe burns.
Extreme pH	≥ 11.5 Corrosive.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.
Ingestion	May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin Contact	Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

Engine and Wheel Concentrate (Radiance)

Toxicological information on ingredients.

SODIUM HYDROXIDE

Other health effects	There is no evidence that the product can cause cancer.
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	2,000.0
Species	Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Not anticipated to present an aspiration hazard, based on chemical structure.
Route of exposure	Skin absorption Ingestion Skin and/or eye contact
Target Organs	No specific target organs known.
<u>1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts</u>	
Other health effects	There is no evidence that the product can cause cancer.
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	7,783.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,066.0
Species	Rat
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 1,000 mg/kg, Oral, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 300 mg/kg, Oral, Rat Not classified as a specific target organ toxicant after repeated exposure.

Engine and Wheel Concentrate (Radiance)

2-BUTOXYETHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,300.0

Species Rat

ATE oral (mg/kg) 1,300.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,270.0

Species Rat

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 11.0

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation:: Negative. This substance has no evidence of mutagenic properties.

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Fertility: - NOAEL 720 mg/kg, , Mouse

Reproductive toxicity - development Developmental toxicity: - NOAEL: 100 mg/kg, , Rat

SECTION 12: Ecological information

Ecological information on ingredients.

SODIUM HYDROXIDE

Ecotoxicity The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

Ecotoxicity Harmful to aquatic life.

2-BUTOXYETHANOL

Ecotoxicity Not regarded as dangerous for the environment.

Toxicity Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

Engine and Wheel Concentrate (Radiance)

Ecological information on ingredients.

SODIUM HYDROXIDE

Acute aquatic toxicity

Acute toxicity - fish	LC50, 48 hours: ~ 189 mg/l, Leuciscus idus (Golden orfe) LC ₅₀ , 96 hours: 125 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 100 mg/l, Daphnia magna EC ₅₀ , 48 hours: 40-240 mg/l, Daphnia magna
Acute toxicity - aquatic plants	Not known.

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: ~ 1.11 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1.9 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 2.4 mg/l, Freshwater algae
Acute toxicity - microorganisms	EC ₀ , : 3,000 mg/l, Activated sludge

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	NOEC, : 0.135 mg/l, Oncorhynchus mykiss (Rainbow trout)
Chronic toxicity - aquatic invertebrates	NOEC, : 0.3 mg/l, Daphnia magna

2-BUTOXYETHANOL

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: > 100 mg/l, Lepomis macrochirus (Bluegill)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1550 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , >: > 100 mg/l,
Acute toxicity - microorganisms	EC ₅₀ , >: > 1000 mg/l,

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	NOEC, 21 days: > 100 mg/l,
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 100 mg/l, Daphnia magna

LIMONENE

Acute aquatic toxicity

Engine and Wheel Concentrate (Radiance)

LE(C) ₅₀	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

SODIUM HYDROXIDE

Persistence and degradability	The product contains only inorganic substances which are not biodegradable. The product is potentially degradable.
Stability (hydrolysis)	Not applicable.
Biological oxygen demand	~ 0 g O ₂ /g substance

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

Persistence and degradability	The product is biodegradable.
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2-BUTOXYETHANOL

Persistence and degradability	The product is biodegradable.
Biodegradation	Water - Degradation (%) 90.4: 28 days

Bioaccumulative potential

Bioaccumulative Potential No data available on bioaccumulation.

Partition coefficient : < 0

Ecological information on ingredients.

SODIUM HYDROXIDE

Bioaccumulative Potential The product is not bioaccumulating.

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

Bioaccumulative Potential The product does not contain any substances expected to be bioaccumulating. BCF: 71,

2-BUTOXYETHANOL

Bioaccumulative Potential The product is not bioaccumulating.

Partition coefficient : 0.81

Mobility in soil

Mobility The product is water-soluble and may spread in water systems. The product is non-volatile.

Engine and Wheel Concentrate (Radiance)

Ecological information on ingredients.

SODIUM HYDROXIDE

Mobility	The product is soluble in water.
Henry's law constant	The product contains mainly inorganic substances which are not biodegradable.
<u>1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts</u>	

Mobility	The product is soluble in water.
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2-BUTOXYETHANOL

Mobility	The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.
Adsorption/desorption coefficient	Water - Koc: ~ 67 @ °C
Henry's law constant	0.000016 atm m ³ /mol @ °C
Surface tension	65 mN/m @ °C

Other adverse effects

Other adverse effects	None known.
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SECTION 13: Disposal considerations

Waste treatment methods

General information	The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
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Disposal methods	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.
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SECTION 14: Transport information

General	For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.
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UN number

UN No. (ADG) 1824

UN No. (IMDG) 1824

UN No. (ICAO) 1824

UN proper shipping name

Engine and Wheel Concentrate (Radiance)

Proper shipping name (ADG) SODIUM HYDROXIDE SOLUTION

Proper shipping name (IMDG) SODIUM HYDROXIDE SOLUTION

Proper shipping name (ICAO) SODIUM HYDROXIDE SOLUTION

Transport hazard class(es)

ADG class 8

ADG classification code C5

ADG label 8

IMDG class 8

ICAO class/division 8

Transport labels



Packing group

ADG packing group II

IMDG packing group II

ICAO packing group II

Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

Special precautions for user

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.

EmS F-A, S-B

Hazchem Code 2R

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

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

Schedule (SUSMP) Schedule 6. Poison.

Inventories

Australia - AICS

All the ingredients are listed or exempt.

SECTION 16: Any other relevant information

Engine and Wheel Concentrate (Radiance)

Abbreviations and acronyms used in the safety data sheet	<p>ADG: Australian dangerous goods code</p> <p>IATA: International air transport association.</p> <p>ICAO: Technical instructions for the safe transport of dangerous goods by air.</p> <p>IMDG: International maritime dangerous goods.</p> <p>CAS: Chemical abstracts service.</p> <p>ATE: Acute toxicity estimate.</p> <p>LC₅₀: Lethal concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal dose to 50% of a test population (median lethal dose).</p> <p>EC₅₀: 50% of maximal effective concentration.</p> <p>PBT: Persistent, bioaccumulative and toxic substance.</p> <p>vPvB: Very persistent and very bioaccumulative.</p>
Classification abbreviations and acronyms	<p>Met. Corr. = Corrosive to metals</p> <p>Eye Dam. = Serious eye damage</p> <p>Skin Corr. = Skin corrosion</p> <p>Aquatic Chronic = Hazardous to the aquatic environment (chronic)</p>
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	<p>Prepared by Autosmart International Ltd, Lynn Lane, Shenstone, Lichfield, Staffordshire, WS14 0DH, Great Britain.</p> <p>www.autosmartinternational.com</p> <p>rbutler@autosmart.co.uk</p> <p>Tel +44 (0)1543 481616</p>
Revision date	4/02/2019
Revision	1
SDS No.	21666
SDS status	Approved.
Hazard statements in full	<p>H226 Flammable liquid and vapour.</p> <p>H290 May be corrosive to metals.</p> <p>H302 Harmful if swallowed.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H312 Harmful in contact with skin.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H315 Causes skin irritation.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H400 Very toxic to aquatic life.</p> <p>H402 Harmful to aquatic life.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p> <p>H412 Harmful to aquatic life with long lasting effects.</p>

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.