



## SAFETY DATA SHEET

### Engine and Wheel Concentrate (Radiance)

According to the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practise, 2021.

#### 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](http://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](mailto:autosmart@autosmartaustralia.com.au)

**Contact Person** Mr. Russell Butler

##### Emergency telephone number

**Emergency telephone** NCEC - For Chemical Emergency Support ONLY (spill, leak, fire, exposure or accident), Call NCEC at 18000 74234 (toll free 24Hrs) - when calling please quote "AUTOSMART 29003-NCEC"  
 Local number +61 2 8 014 4558  
 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

## Engine and Wheel Concentrate (Radiance)

### Hazard pictograms



### Signal word

DANGER

### Hazard statements

H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.  
 H412 Harmful to aquatic life with long lasting effects.

### 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.

### Supplemental label information

For professional users only.

### 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

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

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<b>2-BUTOXYETHANOL</b> <span style="float: right;"><b>2&lt;3%</b></span> CAS number: 111-76-2 Substance with a Community workplace exposure limit.
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319
<b>Pine Oil</b> <span style="float: right;"><b>0.5&lt;0.7%</b></span> CAS number: 8002-09-3
<b>Classification</b> Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411
<b>LIMONENE</b> <span style="float: right;"><b>0.2&lt;0.5%</b></span> CAS number: 138-86-3 M factor (Acute) = 1 <span style="margin-left: 100px;">M factor (Chronic) = 1</span>
<b>Classification</b> Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410
<b>Fir needle oil</b> <span style="float: right;"><b>0.01&lt;0.1%</b></span> CAS number: 8021-29-2 M factor (Acute) = 1 <span style="margin-left: 100px;">M factor (Chronic) = 1</span>
<b>Classification</b> Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

## Engine and Wheel Concentrate (Radiance)

<b>EUCALYPTUS OIL</b>	<b>0.01&lt;0.1%</b>
CAS number: 8000-48-4	
<b>Classification</b>	
Flam. Liq. 3 - H226	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Skin Sens. 1 - H317	
Asp. Tox. 1 - H304	
Aquatic Chronic 2 - H411	

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

### SECTION 4: First aid measures

#### Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Skin Contact</b>	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.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	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

<b>General information</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

## Engine and Wheel Concentrate (Radiance)

**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.

### 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.

#### 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** 2R

### 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

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**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

**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

## Engine and Wheel Concentrate (Radiance)

### sodium hydroxide

Ceiling value: 2 mg/m<sup>3</sup>

### 2-BUTOXYETHANOL

Long-term exposure limit (8-hour TWA): 20 ppm 96.9 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): 50 ppm 242 mg/m<sup>3</sup>

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).

### 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether (CAS: 112-34-5)

**Ingredient comments** No exposure limits known for ingredient(s).

### Exposure controls

#### Protective equipment



#### 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. The breakthrough time for any glove material may be different for different glove manufacturers. 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. The choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. When used with mixtures, the protection time of gloves cannot be accurately estimated. Gloves made from the following material may provide suitable chemical protection: Nitrile rubber. Thickness: >0.2mm The selected gloves should have a breakthrough time of at least 0.5 hours. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. Repeated exposure to chemicals will degrade the ability of the glove to provide resistance to chemicals. Specific work environments and material handling practices may vary, therefore safety procedures should be developed for each intended application. Use thin cotton gloves inside natural rubber gloves if there is an allergy risk to natural rubber.

## Engine and Wheel Concentrate (Radiance)

<b>Other skin and body protection</b>	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
<b>Hygiene measures</b>	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.
<b>Respiratory protection</b>	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.
<b>Environmental exposure controls</b>	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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Fluorescent. Green.
<b>Odour</b>	Pine.
<b>Odour threshold</b>	Not available.
<b>pH</b>	pH (concentrated solution): 13.8 pH (diluted solution): 12.5 @ 1%
<b>Melting point</b>	~ 0°C
<b>Initial boiling point and range</b>	~ 100°C @ 760 mm Hg
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability Limit - Lower(%)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	~ 1.080 @ @ 20°C
<b>Solubility(ies)</b>	Soluble in water. Miscible with water.
<b>Partition coefficient</b>	: < 0
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	~ 1 cSt @ 20°C



## Engine and Wheel Concentrate (Radiance)

<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.
<b>Comments</b>	Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.
<b>Volatile organic compound</b>	This product contains a maximum VOC content of 2.5 %.

### SECTION 10: Stability and reactivity

<b>Reactivity</b>	May be corrosive to metals.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	Acid anhydrides. Acids. Phenols, cresols. Mild steel. Stainless steel. Aluminium. May be corrosive to metals.
<b>Hazardous decomposition products</b>	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 LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE oral (mg/kg)** 63,725.49

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE dermal (mg/kg)** 53,921.57

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE inhalation (vapours mg/l)** 539.22

##### Skin corrosion/irritation

**Animal data** Skin Corr. 1A - H314 Causes severe burns.

**Extreme pH** ≥ 11.5 Corrosive.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

##### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

##### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

## Engine and Wheel Concentrate (Radiance)

### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

### Reproductive toxicity

**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.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

### Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

### 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.

### Toxicological information on ingredients.

#### sodium hydroxide

**Other health effects** There is no evidence that the product can cause cancer.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

### Aspiration hazard

**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.

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

## Engine and Wheel Concentrate (Radiance)

**Other health effects** There is no evidence that the product can cause cancer.

### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 7,783.0

**Species** Rat

### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 2,066.0

**Species** Rat

### Skin sensitisation

**Skin sensitisation** Not sensitising.

### Reproductive toxicity

**Reproductive toxicity - development** Developmental toxicity: - NOAEL: 1,000 mg/kg, Oral, Rat

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** NOAEL 300 mg/kg, Oral, Rat Not classified as a specific target organ toxicant after repeated exposure.

## 2-BUTOXYETHANOL

### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 1,300.0

**Species** Rat

**ATE oral (mg/kg)** 1,300.0

### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> 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

## Engine and Wheel Concentrate (Radiance)

<b>IARC carcinogenicity</b>	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Fertility: - NOAEL 720 mg/kg, , Mouse
<b>Reproductive toxicity - development</b>	Developmental toxicity: - NOAEL: 100 mg/kg, , Rat

### SECTION 12: Ecological information

#### Ecological information on ingredients.

##### sodium hydroxide

<b>Ecotoxicity</b>	The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.
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##### 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

<b>Ecotoxicity</b>	Harmful to aquatic life.
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<b>Toxicity</b>	Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.
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#### Ecological information on ingredients.

##### sodium hydroxide

##### Acute aquatic toxicity

<b>Acute toxicity - fish</b>	LC50, 48 hours: ~ 189 mg/l, Leuciscus idus (Golden orfe) LC <sub>50</sub> , 96 hours: 125 mg/l, Fish
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<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: > 100 mg/l, Daphnia magna EC <sub>50</sub> , 48 hours: 40-240 mg/l, Daphnia magna
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<b>Acute toxicity - aquatic plants</b>	Not known.
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##### 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-,N-C8-18(even numbered) acyl derivs., hydroxides, inner salts

##### Acute aquatic toxicity

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

<b>Chronic toxicity - fish early life stage</b>	NOEC, : 0.135 mg/l, Oncorhynchus mykiss (Rainbow trout)
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## Engine and Wheel Concentrate (Radiance)

**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<sub>50</sub>, 48 hours: 1550 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, >: > 100 mg/l,

**Acute toxicity - microorganisms** EC<sub>50</sub>, >: > 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

**LE(C)<sub>50</sub>** 0.1 < L(E)C50 ≤ 1

**M factor (Acute)** 1

#### Chronic aquatic toxicity

**M factor (Chronic)** 1

### Fir needle oil

#### Acute aquatic toxicity

**LE(C)<sub>50</sub>** 0.1 < L(E)C50 ≤ 1

**M factor (Acute)** 1

#### Chronic aquatic toxicity

**NOEC** 0.01 < NOEC ≤ 0.1

**Degradability** Non-rapidly degradable

**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.

## Engine and Wheel Concentrate (Radiance)

**Biological oxygen demand** ~ 0 g O<sub>2</sub>/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.

### 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.

### 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.

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

**Mobility** The product is soluble in water.

### 2-BUTOXYETHANOL

**Mobility** The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

## Engine and Wheel Concentrate (Radiance)

<b>Adsorption/desorption coefficient</b>	Water - Koc: ~ 67 @ °C
<b>Henry's law constant</b>	0.000016 atm m <sup>3</sup> /mol @ °C
<b>Surface tension</b>	65 mN/m @ °C

### Other adverse effects

**Other adverse effects** None known.

## 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.

#### **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.

## SECTION 14: Transport information

#### **General**

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

#### UN number

<b>UN No. (ADG)</b>	1824
<b>UN No. (IMDG)</b>	1824
<b>UN No. (ICAO)</b>	1824

#### UN proper shipping name

**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)

<b>ADG class</b>	8
<b>ADG classification code</b>	C5
<b>ADG label</b>	8
<b>IMDG class</b>	8
<b>ICAO class/division</b>	8

## Engine and Wheel Concentrate (Radiance)

### 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 Annex II of MARPOL 73/78 and the IBC Code Not applicable.

### SECTION 15: Regulatory information

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

Schedule (SUSMP) Schedule 6. Poison.

### Inventories

#### Australia - AIIC

All the ingredients are listed or exempt.

### SECTION 16: Any other relevant information

**Abbreviations and acronyms used in the safety data sheet** ADG: Australian dangerous goods code

IATA: International air transport association.  
 ICAO: Technical instructions for the safe transport of dangerous goods by air.  
 IMDG: International maritime dangerous goods.  
 CAS: Chemical abstracts service.  
 ATE: Acute toxicity estimate.  
 LC<sub>50</sub>: Lethal concentration to 50 % of a test population.  
 LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).  
 EC<sub>50</sub>: 50% of maximal effective concentration.  
 PBT: Persistent, bioaccumulative and toxic substance.  
 vPvB: Very persistent and very bioaccumulative.



## Engine and Wheel Concentrate (Radiance)

<b>Classification abbreviations and acronyms</b>	Met. Corr. = Corrosive to metals Eye Dam. = Serious eye damage Skin Corr. = Skin corrosion Aquatic Chronic = Hazardous to the aquatic environment (chronic)
<b>Training advice</b>	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
<b>Revision comments</b>	NOTE: Lines within the margin indicate significant changes from the previous revision.
<b>Issued by</b>	Prepared by Autosmart International Ltd, Lynn Lane, Shenstone, Lichfield, Staffordshire, WS14 0DH, Great Britain. www.autosmartinternational.com rbutler@autosmart.co.uk Tel +44 (0)1543 481616
<b>Revision date</b>	7/06/2021
<b>Revision</b>	2
<b>Supersedes date</b>	4/02/2019
<b>SDS No.</b>	21666
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	H226 Flammable liquid and vapour. H290 May be corrosive to metals. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H400 Very toxic to aquatic life. H402 Harmful to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

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.