

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : RADIANCE  
Product code : DT161  
Type of product : Detergent

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only  
Use of the substance/mixture : Machine dishwashing detergent

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### MANGROVE PROFESSIONAL

PO BOX 3348  
STAFFORD  
ST16 9NW  
UNITED KINGDOM

Tel: 01785 253 702

#### 1.4. Emergency telephone number

Mon to Fri 8.30am to 5.00pm - 01785 253 702

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 1, Sub-Category 1A H314  
Serious eye damage/eye irritation, Category 1 H318  
Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger  
Contains : sodium hydroxide; caustic soda  
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Precautionary statements (CLP) :

- P264 - Wash hands thoroughly after handling.
- P280 - Wear eye protection, protective gloves.
- 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 or shower.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P315 - Get immediate medical advice/attention.
- P405 - Store locked up.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name  | Product identifier  | %       | Classification according to Regulation (EC) No. 1272/2008 [CLP]  |
|---|---|---------|--|
| sodium hydroxide; caustic soda substance with national workplace exposure limit(s) (IE, GB) | (CAS-No.) 1310-73-2<br>(EC-No.) 215-185-5<br>(EC Index-No.) 011-002-00-6<br>(REACH-no) 01-2119457892-27 | 5 – 10  | Skin Corr. 1A, H314  |
| N,N-dimethyldecylamine N-oxide  | (CAS-No.) 2605-79-0<br>(EC-No.) 220-020-5<br>(REACH-no) 01-2119959297-22                                | 0.1 – 1 | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400 |

### Specific concentration limits:

| Name                           | Product identifier  | Specific concentration limits   |
|--------------------------------|---|---|
| sodium hydroxide; caustic soda | (CAS-No.) 1310-73-2<br>(EC-No.) 215-185-5<br>(EC Index-No.) 011-002-00-6<br>(REACH-no) 01-2119457892-27 | ( 0.5 ≤C < 2) Skin Irrit. 2, H315<br>( 0.5 ≤C < 2) Eye Irrit. 2, H319<br>( 2 ≤C < 5) Skin Corr. 1B, H314<br>( 5 ≤C ≤ 100) Skin Corr. 1A, H314 |

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Get medical advice/attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Burns.

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Corrosive vapours.

### 5.3. Advice for firefighters

No additional information available

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.  
Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Does not require any specific or particular technical measures.  
Storage conditions : Keep container closed when not in use.  
Incompatible products : Oxidizing agent. Strong acids.  
Incompatible materials : Metals.  
Special rules on packaging : Keep only in original container.

### 7.3. Specific end use(s)

No additional information available

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

| sodium hydroxide; caustic soda (1310-73-2)           |                     |
|--|---------------------|
| <b>Ireland - Occupational Exposure Limits</b>        |                     |
| Local name   | Sodium hydroxide    |
| OEL STEL   | 2 mg/m <sup>3</sup> |
| <b>United Kingdom - Occupational Exposure Limits</b> |                     |
| Local name   | Sodium hydroxide    |
| WEL STEL (OEL STEL)                                  | 2 mg/m <sup>3</sup> |

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

##### 8.1.4. DNEL and PNEC

No additional information available

##### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

##### 8.2.1. Appropriate engineering controls

No additional information available

##### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



##### 8.2.2.1. Eye and face protection

|                        |
|------------------------|
| <b>Eye protection:</b> |
| Safety glasses. EN 166 |

##### 8.2.2.2. Skin protection

|   |
|---|
| <b>Skin and body protection:</b>          |
| Not required for normal conditions of use |

##### Hand protection:

Chemical resistant gloves (according to European standard EN 374 or equivalent). Nitrile rubber gloves

##### Other skin protection

##### **Materials for protective clothing:**

Not required for normal conditions of use

##### 8.2.2.3. Respiratory protection

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Respiratory protection:

Not required for normal conditions of use

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                     |
|---|---------------------|
| Physical state                                  | : Liquid            |
| Appearance                                      | : Liquid.           |
| Colour  | : amber.            |
| Odour   | : odourless.        |
| Odour threshold                                 | : No data available |
| pH  | : 13                |
| Relative evaporation rate (butylacetate=1)      | : No data available |
| Melting point                                   | : No data available |
| Freezing point                                  | : No data available |
| Boiling point                                   | : $\geq 100$ °C     |
| Flash point                                     | : No data available |
| Auto-ignition temperature                       | : No data available |
| Decomposition temperature                       | : No data available |
| Flammability (solid, gas)                       | : No data available |
| Vapour pressure                                 | : No data available |
| Relative vapour density at 20 °C                | : No data available |
| Relative density                                | : 1.13              |
| Solubility                                      | : Soluble in water. |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Viscosity, kinematic                            | : No data available |
| Viscosity, dynamic                              | : No data available |
| Explosive properties                            | : No data available |
| Oxidising properties                            | : No data available |
| Explosive limits                                | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions of use.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Metals. Acids.

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

|                                   |  |
|-----------------------------------|--|
| Acute toxicity (oral)             | : Not classified                       |
| Acute toxicity (dermal)           | : Not classified                       |
| Acute toxicity (inhalation)       | : Not classified                       |
| Skin corrosion/irritation         | : Causes severe skin burns.<br>pH: 13  |
| Serious eye damage/irritation     | : Causes serious eye damage.<br>pH: 13 |
| Respiratory or skin sensitisation | : Not classified                       |
| Germ cell mutagenicity            | : Not classified                       |
| Carcinogenicity                   | : Not classified                       |
| Reproductive toxicity             | : Not classified                       |
| STOT-single exposure              | : Not classified                       |
| STOT-repeated exposure            | : Not classified                       |
| Aspiration hazard                 | : Not classified                       |

## SECTION 12: Ecological information

### 12.1. Toxicity

|   |                  |
|---|------------------|
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified |

#### sodium hydroxide; caustic soda (1310-73-2)

|                                    |                     |
|------------------------------------|---------------------|
| LC50 - Fish [1]                    | > 35 mg/l           |
| EC50 - Other aquatic organisms [1] | > 33 mg/l waterflea |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### sodium hydroxide; caustic soda (1310-73-2)

|   |       |
|---|-------|
| Partition coefficient n-octanol/water (Log Pow) | -3.88 |
|---|-------|

#### N,N-dimethyldodecylamine N-oxide (2605-79-0)

|   |      |
|---|------|
| Partition coefficient n-octanol/water (Log Pow) | 3.69 |
|---|------|

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

No additional information available

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

### 14.1 UN number

|               |           |
|---------------|-----------|
| UN-No. (ADR)  | : UN 1824 |
| UN-No. (IMDG) | : UN 1824 |
| UN-No. (IATA) | : UN 1824 |

### 14.2. UN proper shipping name

|                                       |   |
|---------------------------------------|---|
| Proper Shipping Name (ADR)            | : SODIUM HYDROXIDE SOLUTION                     |
| Proper Shipping Name (IMDG)           | : SODIUM HYDROXIDE SOLUTION                     |
| Proper Shipping Name (IATA)           | : Sodium hydroxide solution                     |
| Transport document description (ADR)  | : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, (E) |
| Transport document description (IMDG) | : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II      |
| Transport document description (IATA) | : UN 1824 Sodium hydroxide solution, 8, II      |

### 14.3. Transport hazard class(es)

#### ADR

|                                  |     |
|----------------------------------|-----|
| Transport hazard class(es) (ADR) | : 8 |
| Danger labels (ADR)              | : 8 |



#### IMDG

|                                   |     |
|-----------------------------------|-----|
| Transport hazard class(es) (IMDG) | : 8 |
| Danger labels (IMDG)              | : 8 |



#### IATA

|                                   |     |
|-----------------------------------|-----|
| Transport hazard class(es) (IATA) | : 8 |
| Danger labels (IATA)              | : 8 |



### 14.4. Packing group

|                     |      |
|---------------------|------|
| Packing group (ADR) | : II |
|---------------------|------|

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Packing group (IMDG) : II  
Packing group (IATA) : II

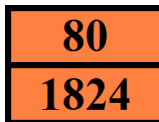
### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : C5  
Limited quantities (ADR) : 1I  
Excepted quantities (ADR) : E2  
Packing instructions (ADR) : P001, IBC02  
Mixed packing provisions (ADR) : MP15  
Portable tank and bulk container instructions (ADR) : T7  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L4BN  
Vehicle for tank carriage : AT  
Transport category (ADR) : 2  
Hazard identification number (Kemler No.) : 80  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : 2R

#### Transport by sea

Limited quantities (IMDG) : 1 L  
Excepted quantities (IMDG) : E2  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP2  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-B  
Stowage category (IMDG) : A

#### Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y840  
PCA limited quantity max net quantity (IATA) : 0.5L  
PCA packing instructions (IATA) : 851  
PCA max net quantity (IATA) : 1L  
CAO packing instructions (IATA) : 855  
CAO max net quantity (IATA) : 30L  
Special provisions (IATA) : A3  
ERG code (IATA) : 8L

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

IBC code : Not applicable.

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions  
Contains no substance on the REACH candidate list  
Contains no REACH Annex XIV substances



## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

| Detergent Regulation (648/2004/EC): Labelling of contents: |     |
|--|-----|
| Component  | %   |
| non-ionic surfactants                                      | <5% |

### 15.1.2. National regulations

#### United Kingdom

British National Regulations

: Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).  
Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.  
Detergent Regulation (648/2004/EC).

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

| Full text of H- and EUH-statements: |   |
|-------------------------------------|---|
| Aquatic Acute 1                     | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Eye Dam. 1                          | Serious eye damage/eye irritation, Category 1                   |
| Eye Irrit. 2                        | Serious eye damage/eye irritation, Category 2                   |
| Skin Corr. 1A                       | Skin corrosion/irritation, Category 1, Sub-Category 1A          |
| Skin Corr. 1B                       | Skin corrosion/irritation, Category 1, Sub-Category 1B          |
| Skin Irrit. 2                       | Skin corrosion/irritation, Category 2                           |
| H314                                | Causes severe skin burns and eye damage.                        |
| H315                                | Causes skin irritation.   |
| H318                                | Causes serious eye damage.                                      |
| H319                                | Causes serious eye irritation.                                  |
| H400                                | Very toxic to aquatic life.                                     |

| Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: |      |                    |
|---|------|--------------------|
| Skin Corr. 1A   | H314 | Calculation method |
| Eye Dam. 1  | H318 | Calculation method |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.