

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Mixture  
Product name : Sentinel Deposit Remover

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Main use category : Descaler for central heating systems

**1.2.2. Uses advised against**

No additional information available

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

SENTINEL PERFORMANCE SOLUTIONS LTD  
7650 Daresbury Park, Daresbury  
WA4 4BS Warrington - United Kingdom  
T +44 (0) 1928 704 330 - F +44 (0) 1928 562 070  
[info.uk@sentinel-solutions.net](mailto:info.uk@sentinel-solutions.net)

**1.4. Emergency telephone number**

Emergency number : +44 (0) 1928 704 339  
(24 hours, 7 days)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Eye Irrit. 2 H319

Full text of H-phrases: see section 16

**Classification according to Directive 67/548/EEC or 1999/45/EC**

Not classified

**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) :



GHS07

Signal word (CLP) : Warning  
Hazard statements (CLP) : H319 - Causes serious eye irritation  
Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling  
P280 - Wear protective gloves, protective clothing, eye protection, face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical advice/attention

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Other hazards not contributing to the classification : Repeated or prolonged contact may cause skin irritation. Ingestion may cause irritation of the gastrointestinal tract.

**SECTION 3: Composition/information on ingredients****3.1. Substance**

Not applicable

# Sentinel Deposit Remover

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Citric acid	(CAS No) 77-92-9 (EC No.) 201-069-1	10 - 20	Xi; R36

  

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Citric acid	(CAS No) 77-92-9 (EC No.) 201-069-1	10 - 20	Eye Irrit. 2, H319

Full text of R- and H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove to fresh air, keep the patient warm and at rest. If symptoms develop obtain medical attention.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop obtain medical attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms develop obtain medical attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop obtain medical attention.

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

Symptoms/injuries after skin contact	: Contact during a long period may cause light irritation.
Symptoms/injuries after eye contact	: Causes eye irritation.
Symptoms/injuries upon intravenous administration	: Ingestion may cause irritation of the gastrointestinal tract.

### 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	: Foam. Dry powder. Carbon dioxide. Water spray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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

Hazardous decomposition products in case of fire	: Carbon dioxide. Carbon monoxide. Nitrogen oxides. Phosphorous oxide.
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### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
Protection during firefighting	: As in any fire, wear self-contained breathing apparatus and full protective gear.

## 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.
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#### 6.1.2. For emergency responders

Protective equipment	: Use chemically protective clothing.
Emergency procedures	: Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

# Sentinel Deposit Remover

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Wear recommended personal protective equipment. Take off contaminated clothing and wash before reuse.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

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

- Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use. Avoid ignition sources. Protect material from direct sunlight.

#### 7.3. Specific end use(s)

Descaler for central heating systems.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

- Appropriate engineering controls : Provide adequate ventilation, including appropriate local extraction, to ensure that occupational exposure limits are not exceeded.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves. Standard EN 374 - Protective gloves against chemicals.
- Eye protection : Chemical goggles or safety glasses. Standard EN 166 - Personal eye-protection.
- Skin and body protection : Use chemically protective clothing.
- Respiratory protection : Not required for normal conditions of use. In case of insufficient ventilation, wear suitable respiratory equipment.
- Thermal hazard protection : Not required for normal conditions of use.
- Environmental exposure controls : Avoid release to the environment.
- Other information : Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

### SECTION 9: Physical and chemical properties

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

- Physical state : Liquid
- Appearance : Aqueous solution.
- Colour : Amber.
- Odour : characteristic.
- Odour threshold : No data available
- pH : 2.67 @ 20 °C
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : -5 °C
- Freezing point : No data available
- Boiling point : > 100 °C
- Flash point : No data available
- Self ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : Not applicable  
Non flammable.
- Vapour pressure : No data available
- Relative vapour density at 20 °C : 1.114 @ 20 °C
- Relative density : No data available
- Solubility : Miscible with water.
- Log Pow : No data available
- Log Kow : No data available
- Viscosity, kinematic : No data available
- Viscosity, dynamic : No data available
- Explosive properties : Not explosive.

# Sentinel Deposit Remover

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

Oxidising properties : Not oxidising.  
Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None known.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

Extremely high or low temperatures. Ignition sources.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Phosphorous oxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Sentinel Deposit Remover	
LD50 oral rat	> 15000 mg/kg (calculated value)

Citric acid (77-92-9)	
LD50 oral rat	3000 mg/kg

Skin corrosion/irritation : Not classified  
Based on available data, the classification criteria are not met  
pH: 2.67 @ 20 °C

Serious eye damage/irritation : Causes serious eye irritation.  
pH: 2.67 @ 20 °C

Respiratory or skin sensitisation : Not classified  
Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified  
Based on available data, the classification criteria are not met

Carcinogenicity : Not classified  
Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified  
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified  
Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure) : Not classified  
Based on available data, the classification criteria are not met

Aspiration hazard : Not classified  
Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Sentinel Deposit Remover	
EC50 Daphnia	> 2500 mg/l 48 h - Daphnia magna

Citric acid (77-92-9)	
EC50 Daphnia	120 mg/l 72 h - Daphnia magna

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## Safety Data Sheet

according to Regulation (EC) No. 453/2010

### 12.2. Persistence and degradability

#### Sentinel Deposit Remover

Persistence and degradability	No information available.
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### 12.3. Bioaccumulative potential

#### Sentinel Deposit Remover

Bioaccumulative potential	Low bioaccumulation potential.
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#### Citric acid (77-92-9)

Log Pow	-1.72
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### 12.4. Mobility in soil

#### Sentinel Deposit Remover

Ecology - soil	No information available.
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### 12.5. Results of PBT and vPvB assessment

#### Sentinel Deposit Remover

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
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This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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### 12.6. Other adverse effects

: Avoid release to the environment

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

No dangerous good in sense of transport regulations

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

:

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : Not classified.

### 14.6. Special precautions for user

Special transport precautions : No special precautions required.

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the 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

No REACH Annex XVII restrictions

# Sentinel Deposit Remover

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

Contains no REACH candidate substance

### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Abbreviations and acronyms : ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route). ATE (Acute Toxicity Estimate). CAS (Chemical Abstracts Service) number. CLP (Classification, Labeling and Packaging). DNEL (Derived No effect Limit). EC (European Community). EC50 (Effective Concentration 50%). EN (European Norm). IARC (International Agency for Research on Cancer). IATA (International Air Transport Association). IBC (Intermediate Bulk Container). IMDG (International Maritime Dangerous Goods Code). IMO (International Maritime Organisation). LC50 (Lethal Concentration 50%). LD50 (Lethal Dose 50%). MAC (Maximal Allowed Concentration). O/W (Oil-in-Water (chemistry)). OECD (Organisation for Economic Co-operation and Development). PBT (Persistent, bioaccumulative and toxic). PMcc (Pensky-Martens Closed Cup test). PNEC (predicted no effect concentration). REACH (Registration, Evaluation and Authorisation of CHemicals). RID (Règlement concernant le transport international ferroviaire de marchandises). STEL (Short Term Exposure Limit). TWA (Time Weighted Average). UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods). vPvB (very persistent and very bioaccumulative).

Other information : None.

Full text of R-, H- and EUH-phrases::

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation
R36	Irritating to eyes
Xi	Irritant

NCEC SDS EU (REACH ANNEX II)

*The information and recommendations contained herein are based upon data believed to be up-to-date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information and recommendations contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by (incorrect) use, handling, purchase, resale, or exposure to our product. Customers and users of our product must comply with all applicable health and safety laws, regulations, and orders. In particular, they are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures in accordance with the national implementation legislation of EU Directives 89/391 and 98/24.*