

# • SAFETY DATA SHEET

Version 7.0  
Revision Date 09/24/2025  
Print Date 09/25/2025

## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : Decalcifying Solution-Lite

Product Number : D0818  
Brand : Sigma  
CAS-No. : 7647-01-0

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

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## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

**Hazards for the product as supplied**

Corrosive to metals : Category 1

**Other hazards**

None known.

**GHS label elements**

Hazard pictograms

:



Signal Word

: Warning

Hazard Statements

: H290 May be corrosive to metals.

Precautionary statements

: **Prevention:**

P234 Keep only in original packaging.

**Response:**

P390 Absorb spillage to prevent material damage.

**Storage:**

P406 Store in a corrosion resistant container with a resistant inner liner.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture

: Mixture

**Components**

| Chemical name     | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|-------------------|-------------------|-----------------------|--------------|
| Hydrochloric Acid | 7647-01-0*        | $\geq 5 - \leq 10$    | TSC          |

\* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

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**SECTION 4. FIRST AID MEASURES**

General advice

: Show this safety data sheet to the doctor in attendance.

If inhaled

: After inhalation: fresh air.

In case of skin contact

: In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

: After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

: After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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|                                                             |                                                                                                                       |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Most important symptoms and effects, both acute and delayed | : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders                                  | : For personal protection see section 8.                                                                              |
| Notes to physician                                          | : No data available                                                                                                   |

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## SECTION 5. FIREFIGHTING MEASURES

|                                                |                                                                                                                                                                      |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                   | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                                                            |
| Unsuitable extinguishing media                 | : For this substance/mixture no limitations of extinguishing agents are given.                                                                                       |
| Specific hazards during fire fighting          | : Not combustible.<br><br>Ambient fire may liberate hazardous vapours.                                                                                               |
| Hazardous combustion products                  | : Hydrogen chloride gas                                                                                                                                              |
| Specific extinguishing methods                 | : No data available                                                                                                                                                  |
| Further information                            | : Suppress (knock down) gases/vapours/mists with a water spray jet.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : In the event of fire, wear self-contained breathing apparatus.                                                                                                     |

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |                                                                                                                                        |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : Advice for non-emergency personnel:<br>Do not breathe vapours, aerosols.<br>Avoid substance contact.<br>Ensure adequate ventilation. |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

Evacuate the danger area, observe emergency procedures, consult an expert.  
Advice for emergency responders:  
For personal protection see section 8.

- Environmental precautions : Do not let product enter drains.
- Methods and materials for containment and cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

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## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

- Conditions for safe storage : No metal containers.
- Further information on storage conditions : Tightly closed.
- Storage class : 12, Non Combustible Liquids
- Recommended storage temperature : Recommended storage temperature see product label.
- Further information on storage stability : Handle and open container with care. Heat sensitive.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

| Components        | CAS-No.   | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis     |
|-------------------|-----------|-------------------------------|------------------------------------------------|-----------|
| Hydrochloric Acid | 7647-01-0 | C                             | 2 ppm                                          | ACGIH     |
|                   |           | C                             | 5 ppm<br>7 mg/m <sup>3</sup>                   | NIOSH REL |
|                   |           | C                             | 5 ppm<br>7 mg/m <sup>3</sup>                   | OSHA Z-1  |

**Engineering measures** : No data available

### Personal protective equipment

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Respiratory protection : required when vapours/aerosols are generated.

Recommended Filter type: : Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Remarks : required

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  
Safety glasses

Skin and body protection : protective clothing

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Aqueous solution

Color : yellow, to, amber

Odor : No data available

Odor Threshold : No data available  
pH : No data available

Melting point : No data available

Boiling point/boiling range : 208 °F / 98 °C

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Flammability (liquids) : The product is not flammable.

|                                                     |                                |
|-----------------------------------------------------|--------------------------------|
| Burning rate                                        | : No data available            |
| Self-ignition                                       | : Not applicable               |
| Upper explosion limit /<br>Upper flammability limit | : Not applicable               |
| Lower explosion limit /<br>Lower flammability limit | : Not applicable               |
| Vapor pressure                                      | : No data available            |
| Relative vapour density                             | : No data available            |
| Relative density                                    | : No data available            |
| Density                                             | : No data available            |
| Solubility(ies)<br>Water solubility                 | : soluble (68 °F / 20 °C)      |
| Partition coefficient: n-<br>octanol/water          | : No data available            |
| Autoignition temperature                            | : Not applicable               |
| Decomposition<br>temperature                        | : No data available            |
| Viscosity, dynamic                                  | : No data available            |
| Viscosity, kinematic                                | : No data available            |
| Flow time                                           | : No data available            |
| Explosive properties                                | : Not classified as explosive. |
| Oxidizing properties                                | : none                         |
| Particle characteristics<br>Particle size           | : No data available            |

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## SECTION 10. STABILITY AND REACTIVITY

|                    |                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------|
| Reactivity         | : No data available                                                                       |
| Chemical stability | : The product is chemically stable under standard ambient conditions (room temperature) . |

|                                    |                                                                                       |
|------------------------------------|---------------------------------------------------------------------------------------|
| Possibility of hazardous reactions | : Violent reactions possible with:<br>The generally known reaction partners of water. |
| Conditions to avoid                | : no information available                                                            |
| Incompatible materials             | : Metals                                                                              |
| Hazardous decomposition products   | : In the event of fire: see section 5                                                 |

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Mixture

##### Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

No data available

##### Skin corrosion/irritation

Remarks: No data available

##### Serious eye damage/eye irritation

Remarks: No data available

##### Respiratory or skin sensitization

No data available

##### Germ cell mutagenicity

No data available

##### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

##### Reproductive toxicity

No data available

No data available

##### Specific target organ toxicity - single exposure

No data available

##### Specific target organ toxicity - repeated exposure

No data available

##### Aspiration hazard

No data available

## 11.2 Additional Information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

### Components

#### Hydrochloric Acid

##### Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Inhalation: Cough Difficulty in breathing

Inhalation: Corrosive to respiratory system.

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage

Dermal: No data available

##### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: Corrosive

(OECD Test Guideline 431)

##### Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: Causes serious eye damage. - 10 min

(OECD Test Guideline 437)

##### Respiratory or skin sensitization

Maximisation Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

##### Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: Positive results were obtained in some in vitro tests.

Remarks: (ECHA)

Test Type: mitotic recombination assay

Test system: Saccharomyces cerevisiae

Result: negative

Remarks: (ECHA)

Test Type: Ames test

Test system: mouse lymphoma cells

Result: positive

Remarks: (ECHA)

##### Carcinogenicity

No data available

##### Reproductive toxicity

No data available

##### Specific target organ toxicity - single exposure

May cause respiratory irritation. - Respiratory system



Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage

**Specific target organ toxicity - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**

No aspiration toxicity classification

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Product:**

Toxicity to fish : Remarks: No data available

**Components:**

**Hydrochloric Acid:**

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 282 mg/l  
Exposure time: 96 h  
Remarks: (IUCLID)

### Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

**Components:**

**Hydrochloric Acid:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

### Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: No data available

**Components:**

**Hydrochloric Acid:**

Partition coefficient: n-octanol/water : Remarks: Not applicable for inorganic substances

## Mobility in soil

### Product:

Stability in soil : Remarks: No data available

## Other adverse effects

### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

### Components:

#### **Hydrochloric Acid:**

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Additional ecological information : May be harmful to aquatic organisms due to the shift of the pH.  
Do not empty into drains.

Harmful effect due to pH shift.

Discharge into the environment must be avoided.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## SECTION 14. TRANSPORT INFORMATION

### **International Regulations**

#### **IATA-DGR**

UN/ID No. : UN 1789  
Proper shipping name : Hydrochloric acid  
Class : 8  
Packing group : III  
Labels : Class 8 - Corrosive substances

Packing instruction (cargo : 856  
aircraft)  
Packing instruction : 852  
(passenger aircraft)

**IMDG-Code**

UN number : UN 1789  
Proper shipping name : HYDROCHLORIC ACID

Class : 8  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Marine pollutant : no

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations**

**49 CFR Road**

UN/ID/NA number : UN 1789  
Proper shipping name : Hydrochloric acid

Class : 8  
Packing group : III  
Labels : Class 8 - Corrosive substances  
ERG Code : 157  
Marine pollutant : no

Poison Inhalation Hazard : No

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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**SECTION 15. REGULATORY INFORMATION**

**CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : No SARA Hazards

**SARA 313**

: The following components are subject to reporting levels established by SARA Title III, Section 313:

|                   |           |               |
|-------------------|-----------|---------------|
| Hydrochloric Acid | 7647-01-0 | >= 5 - < 10 % |
|-------------------|-----------|---------------|

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

|                   |           |               |
|-------------------|-----------|---------------|
| Hydrochloric Acid | 7647-01-0 | >= 5 - < 10 % |
|-------------------|-----------|---------------|

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

|                   |           |               |
|-------------------|-----------|---------------|
| Hydrochloric Acid | 7647-01-0 | >= 5 - < 10 % |
|-------------------|-----------|---------------|

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

|                   |           |               |
|-------------------|-----------|---------------|
| Hydrochloric Acid | 7647-01-0 | >= 5 - < 10 % |
|-------------------|-----------|---------------|

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

|                   |           |               |
|-------------------|-----------|---------------|
| Hydrochloric Acid | 7647-01-0 | >= 5 - < 10 % |
|-------------------|-----------|---------------|

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

**US State Regulations****Massachusetts Right To Know**

|                   |           |
|-------------------|-----------|
| Hydrochloric Acid | 7647-01-0 |
|-------------------|-----------|

**Pennsylvania Right To Know**

|                   |           |
|-------------------|-----------|
| Hydrochloric Acid | 7647-01-0 |
|-------------------|-----------|

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

**Washington Chemicals of High Concern**

Product does not contain any listed chemicals

**The components of this product are reported in the following inventories:**

TSCA : Product contains substance(s) not listed on TSCA inventory.

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## SECTION 16. OTHER INFORMATION

### Relevant changes since previous version

#### 7. Handling and storage

#### Full text of other abbreviations

|               |                                                                                    |
|---------------|------------------------------------------------------------------------------------|
| ACGIH         | : USA. ACGIH Threshold Limit Values (TLV)                                          |
| NIOSH REL     | : USA. NIOSH Recommended Exposure Limits                                           |
| OSHA Z-1      | : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| ACGIH / C     | : Ceiling limit                                                                    |
| NIOSH REL / C | : Ceiling value not be exceeded at any time.                                       |
| OSHA Z-1 / C  | : Ceiling                                                                          |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United

States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Revision Date : 09/24/2025

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