

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 27.09.2022

Version number 8 (replaces version 7)

Revision: 27.09.2022

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

· **1.1 Product identifier**

· **Product name:** Iron LR

· **Catalog number:** 00515371, 515370BT, 4515370BT, 515371BT, 4515371BT, 00515379BT, 00515370BT, 00515371BT

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

· **Application of the substance / the preparation:** Reagent for water analysis

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

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**

calcium thioglycolate trihydrate

· **Hazard statements**

H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

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Precautionary statements

- P261 Avoid breathing dust.
 P280 Wear protective gloves / eye 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.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P337+P313 If eye irritation persists: Get medical advice/attention.

· **2.3 Other hazards** CAS 65208-41-5: Danger by skin resorption.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

· **Description:** Mixture of organic and inorganic compounds

Dangerous components:

CAS: 124-04-9 EINECS: 204-673-3 Index No: 607-144-00-9 Reg.nr.: 01-2119457561-38-XXXX	adipic acid ⚠ Eye Irrit. 2, H319	30–40%
CAS: 65208-41-5 EINECS: 249-881-5	calcium thioglycolate trihydrate ⚠ Met. Corr. 1, H290; ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	1–≤2.5%
CAS: 28048-33-1 EINECS: 248-797-6	disodium 4,4'-[3-(pyridin-2-yl)-1,2,4-triazine-5,6-diyl]bis(benzenesulphonate) ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%

· **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air and call for doctor for safety reasons.

After skin contact

Instantly rinse with water.

If skin irritation or rash occurs: Get medical advice/attention.

After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed:

after swallowing:

mucous membrane irritation

thirst

general feeling of sickness

sickness

after inhalation:

irritations

coughing

breathing difficulty

vomiting

· **Danger** risk of skin sensitization

· **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
combustible
Formation of toxic gases is possible during heating or in case of fire.
Can be released in case of fire:
Sulphur oxides (SOx)
nitrous gases
Nitrogen oxides (NOx)
Sodium oxide
hydrogen sulfide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Ensure adequate ventilation
Avoid causing dust.
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** Thorough dedusting.
- **Hygiene measures:**
Avoid contact with the skin.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:**
Store in cool location.
Unsuitable material for container: steel.
- **Information about storage in one common storage facility:** see chapter 10
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Protect from the effects of light.
Store under dry conditions.
Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C

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- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **DNELs**

Derived No Effect Level (DNEL)

CAS: 124-04-9 adipic acid	
Oral	DNEL 19 mg/kg (Consumer / acute / systemic effects) 19 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL 38 mg/kg (Worker / acute / systemic effects) 38 mg/kg (Worker / long-term / systemic effects) 19 mg/kg (Consumer / acute / systemic effects) 19 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL 5 mg/m ³ (Worker / acute / local effects) 264 mg/m ³ (Worker / acute / systemic effects) 5 mg/m ³ (Worker / long-term / local effects) 264 mg/m ³ (Worker / long-term / systemic effects) 65 mg/m ³ (Consumer / acute / systemic effects) 65 mg/m ³ (Consumer / long-term / systemic effects)

- **Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

- **PNECs**

Predicted No Effect Concentration (PNEC)

CAS: 124-04-9 adipic acid	
PNEC	59.1 mg/l (Sewage treatment plant) 0.0126 mg/l (Marine water) 0.46 mg/l (Aquatic intermittent release) 0.126 mg/l (Fresh water)
PNEC	0.0228 mg/kg (Soil) 0.0484 mg/kg (Marine sediment) 0.484 mg/kg (Fresh water sediment)

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

- **Individual protection measures, such as personal protective equipment**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

- **Eye/face protection** Safety glasses

- **Hand protection**

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves**

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Other skin protection (body protection):** Protective work clothing.

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- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Tablets
- **Colour:** Yellow tint
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** Not determined.
- **Flammability** combustible
- **Explosive properties:** Product is not explosive.
- **Lower and upper explosion limit**
- **Lower:** Not applicable.
- **Upper:** Not applicable.
- **Flash point:** 196°C (CAS 124-04-09)
- **Ignition temperature:** Not applicable (solid).
- **Decomposition temperature:** Not determined.
- **pH at 20°C** 3.5
- **Kinematic viscosity** Not applicable (solid).
- **Solubility**
- **Water:** Soluble
- **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
- **Vapour pressure:** Not applicable.
- **Density and/or relative density**
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Relative gas density** Not applicable (solid).
- **Particle characteristics** Not determined.

· 9.2 Other information

- **Information with regard to physical hazard classes**
- **Corrosive to metals** Void
- **Other safety characteristics**
- **Oxidising properties:** none
- **Additional information**
- **Solids content:** 100.0 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Dust can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 - Reacts with reducing agents
 - Reacts with alkali (lyes)
 - Reacts with oxidizing agents
 - Reacts with strong oxidizing agents
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
 - metals
 - steel
- **10.6 Hazardous decomposition products:**
 - hydrogen sulphide
 - see section 5

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* SECTION 11: Toxicological information

· 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

· **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 124-04-9 adipic acid		
Oral	LD50	5700 mg/kg (rat) (MERCK)
Dermal	LD50	>7940 mg/kg (rabbit) (Registrant, ECHA: no deaths occurred)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Oral	LD50	352 mg/kg (rat) (Merck)
CAS: 28048-33-1 disodium 4,4'-[3-(pyridin-2-yl)-1,2,4-triazine-5,6-diyl]bis(benzenesulphonate)		
Oral	LD50	>5000 mg/kg (rat)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation** Causes serious eye irritation.

· Information on components:

CAS: 124-04-9 adipic acid		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: severe irritations)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Irritation of skin	OECD 404	(rabbit: slight irritation)
Irritation of eyes	OECD 405	(rabbit: irritation)

· **Respiratory or skin sensitisation** May cause an allergic skin reaction.

· Information on components:

CAS: 124-04-9 adipic acid		
Sensitisation	OECD 406	(guinea pig: negative) (IUCLID)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Sensitisation	OECD 429	(positive) (mouse)

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· Information on components:

OECD 414: Teratogenicity testing
 OECD 473: Mutagenicity testing
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 124-04-9 adipic acid		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (IUCLID)	
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test)	

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

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

· 11.2 Information on other hazards

· **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

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SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 124-04-9 adipic acid

LC50	511 mg/l/48h (gold orfe)
EC50	86 mg/l/48h (Daphnia magna) (OECD 202)
IC50	31 mg/l/72h (Desmodesmus subspicatus) (IUCLID)
LC50	97 mg/l/96h (fathhead minnow) (ECOTOX)

· Bacterial toxicity:

CAS: 124-04-9 adipic acid

EC50	92 mg/l (Pseudomonas putida) (DIN 38412) (IUCLID)
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· 12.2 Persistence and degradability

CAS: 124-04-9 adipic acid

OECD 301 B	100 % / 28 d (readily biodegradable) (CO2 Evolution Test)
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· **Other information:** The following statements refer to the individual components.

· 12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 124-04-9 adipic acid

log Pow	0.081 (.) (25°C, OECD 107)
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· **12.4 Mobility in soil** No further relevant information available.

· 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects

Harmful effect due to pH shift.

Avoid transfer into the environment.

· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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· Uncleaned packagings:

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA

Void

· 14.2 UN proper shipping name

· ADR, IMDG, IATA

Void

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· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

SECTION 15: Regulatory information

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

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).

Employment restrictions concerning young persons must be observed (94/33/EC).

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H290 May be corrosive to metals.

H302 Harmful if swallowed.

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H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organisation
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
 EC50: effective concentration, 50 percent (in vivo)
 OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure
 EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (UK REACH)
 PNEC: Predicted No-Effect Concentration (UK REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Met. Corr. 1: Corrosive to metals – Category 1
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Skin Sens. 1: Skin sensitisation – Category 1
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Data arise from safety data sheets, reference works and literature.
 ECHA: European Chemicals Agency <http://echa.europa.eu>
 IUCLID (International Uniform Chemical Information Database)
 ECOTOX Database

· * **Data compared to the previous version altered.**