

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 09/19/2017

Reviewed on 09/19/2017

1 Identification

- **Product identifier**
- **Trade name:** **Iron HR**
- **Catalogue number:** 00515381, (4)515380BT, (4)515381BT, 00515389BT
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

* 2 Hazard(s) identification

- **Classification of the substance or mixture**



Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard-determining components of labeling:**
ammonium chloride
calcium thioglycolate trihydrate
- **Hazard statements**
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Precautionary statements**
P261 Avoid breathing dust.
P280 Wear protective gloves / eye protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352 If on skin: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep 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.

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- **Other hazards** CAS 65208-41-5: Danger through skin absorption.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 12125-02-9 EINECS: 235-186-4 Index number: 017-014-00-8 RTECS: BP 4550000	ammonium chloride ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319	30–40%
CAS: 65208-41-5 EINECS: 249-881-5	calcium thioglycolate trihydrate ⚠ Met. Corr. 1, H290; ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	20–30%

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

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately rinse with plenty of water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed**
irritations
allergic reactions
after inhalation:
coughing
breathing difficulty
mucous membrane irritation
after swallowing:
sickness
vomiting
headache
thirst
after swallowing of large amounts:
cramps
drop in blood pressure
narcotic conditions
CNS disorders
respiratory paralysis
- **Danger:** risk of skin sensitization
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Hydrogen chloride (HCl)
Sulfur oxides (SOx)

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Nitrogen oxides (NOx)

Ammonia (NH₃)

hydrogen sulfide

· **Advice for firefighters**· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid inhalation of dust.

· **Advice for emergency responders:** Protective equipment: see section 8· **Environmental precautions:** Do not allow product to reach sewage system or any water course.· **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

· **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**· **Precautions for safe handling**· **Advice on safe handling:** No special precautions are necessary if used correctly.· **Hygiene measures:**

Do not inhale dust / smoke / mist.

Avoid contact with the skin.

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

Wash hands before breaks and at the end of work.

Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**· **Storage:**· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

Unsuitable material for receptacle: aluminium

Unsuitable material for container: metals, metal alloys

· **Information about storage in one common storage facility:** Do not store together with alkalis (caustic solutions).· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Protect from exposure to the light.

Store in dry conditions.

Protect from humidity and water.

This product is hygroscopic.

· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

- Control parameters

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

CAS: 12125-02-9 ammonium chloride

REL (USA)	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³
TLV (USA)	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³
EL (Canada)	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³ fume
EV (Canada)	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³ fume

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

- Engineering measures:**

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

- Personal protective equipment:**

- Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.

- Recommended filter device for short term use:** Filter P2

- Protection of hands:**

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.

- Eye protection:** Safety glasses

- Body protection:** Protective work clothing

- Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

- Information on basic physical and chemical properties

- Appearance:**

Form / Physical state: Tablets

Color: White

- Odor:** Unpleasant

- Odor threshold:** Not determined.

- pH-value (9 g/l) at 20°C (68 °F):** 8,5

- Melting point/freezing point:** Not determined.

- Initial boiling point and boiling range:** Not determined.

- Flash point:** Not applicable.

- Flammability (solid, gas):** The product is not combustible.

- Ignition temperature:** $> 400^{\circ}\text{C}$ ($>752^{\circ}\text{F}$)

- Decomposition temperature:** Not determined.

- Auto-ignition temperature:** Product is not self-igniting.

- Danger of explosion:** Product does not present an explosion hazard.

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· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties:	none
· Vapor Pressure:	Not applicable.
· Density:	Not determined.
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies)	
Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Viscosity:	Not applicable.
· Solvent content:	
Organic solvents:	0,0%
Solids content:	100,0%
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents.
Reacts with halogenated compounds.
Violent reactions possible with:
chlorine
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:**
metals
aluminum
copper
Iron
- **Hazardous decomposition products:**
nitrous gases
Hydrogen chloride (HCl)
Hydrogen sulfide
Ammonia (NH₃)
In case of fire: see section 5.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

· Acute toxicity estimate (ATE_(mix)) - Calculation method:		
Oral	GHS ATE _(mix)	982 mg/kg (.)

· LD/LC50 values that are relevant for classification:		
CAS: 12125-02-9 ammonium chloride		
Oral	LD50	1410 mg/kg (rat) (OECD 1410) (Merck)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Oral	LD50	352 mg/kg (rat) (Merck)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.

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- **on the eye:** Causes serious eye irritation.

Information on components:		
CAS: 12125-02-9 ammonium chloride		
Irritation of eyes	OECD 405	(rabbit: irritation)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Irritation of skin	OECD 404	(rabbit: slight irritation)
Irritation of eyes	OECD 405	(rabbit: irritation)

- **Sensitization:** May cause an allergic skin reaction.

Information on components:		
CAS: 12125-02-9 ammonium chloride		
Sensitization	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)
CAS: 65208-41-5 calcium thioglycolate trihydrate		
Sensitization	OECD 429	positiv (mouse) dermal

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)		
CAS: 139-05-9	sodium cyclamate	3

NTP (National Toxicology Program)		
None of the ingredients is listed.		

OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **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.

- **STOT (specific target organ toxicity) -single exposure** May cause respiratory irritation.

- **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.

- **Information on components:**

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 12125-02-9 ammonium chloride		
OECD 471	(guinea pig: negative) (Escherichia coli / Salmonella typhimurium)	

- **Additional toxicological information:** Other dangerous properties can not be excluded.

12 Ecological information

- **Toxicity**

Aquatic toxicity:		
CAS: 12125-02-9 ammonium chloride		
EC50	> 100 mg/l/48h	(Daphnia magna)
LC50	42.91 mg/l/96h	(rainbow trout) (Merck)

- **Other information:**

Toxic for fish:

NH₄⁺ > 0.3 mg/l

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

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log Pow < 1 = Does not accumulate in organisms.

CAS: 12125-02-9 ammonium chloride

log Pow | -4.37 (.)

- **Mobility in soil** No further relevant information available.
- **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number	
· DOT, IMDG, IATA	none
· UN proper shipping name	
· DOT, IMDG, IATA	none
· Transport hazard class(es)	
· DOT, IMDG, IATA	
· Class	none
· Packing group	
· DOT, IMDG, IATA	none
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· Section 355 (Extremely hazardous substances):
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None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
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None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
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None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
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None of the ingredients is listed.

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· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	
· New Jersey Right-to-Know List:	
CAS: 12125-02-9	ammonium chloride
· New Jersey Special Hazardous Substance List:	
None of the ingredients is listed.	
· Pennsylvania Right-to-Know List:	
CAS: 12125-02-9	ammonium chloride
· Pennsylvania Special Hazardous Substance List:	
CAS: 12125-02-9	ammonium chloride
	E
· EPA (Environmental Protection Agency)	
None of the ingredients is listed.	
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
· Information about limitation of use:	
Employment restrictions concerning pregnant and lactating women must be observed.	
Employment restrictions concerning young persons must be observed.	
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

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· Abbreviations and acronyms:

- 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
- ACGIH® - American Conference of Governmental Industrial Hygienists
- A1 - Confirmed human carcinogen
- A2 - Suspected human carcinogen
- A3 - Confirmed animal carcinogen with unknown relevance to humans
- A4 - Not classifiable as a human carcinogen
- A5 - Not suspected as a human carcinogen
- IARC - International Agency for Research on Cancer
- Group 1 - Carcinogenic to humans
- Group 2A - Probably carcinogenic to humans
- Group 2B - Possibly carcinogenic to humans
- Group 3 - Not classifiable as to carcinogenicity to humans
- Group 4 - Probably not carcinogenic to humans
- NTP - National Toxicology Program, U.S. Department of Health and Human Services
- Group K - Known to be Human Carcinogens
- Group R - Reasonably Anticipated to be Human Carcinogens
- ADR: Accord européen sur le transport 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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- 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)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value

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PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
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.

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

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