



BioAnalyt GmbH
14513 Teltow

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****iCheck Iron Reagent****1.2 Relevant identified uses of the substance or mixture and uses advised against****1.2.1 Relevant uses**

Test reagent

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

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1.4 Emergency telephone number**Company** +49 (0)3328-35150-00 Mo-Fr 8:30 - 17:30**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]**

Flam. Liq. 2: H225 Highly flammable liquid and vapour.
Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.
Skin Irrit. 2: H315 Causes skin irritation.
Eye Dam. 1: H318 Causes serious eye damage.
Repr. 2: H361d Suspected of damaging the unborn child.
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.
STOT SE 3: H336 May cause drowsiness or dizziness.



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2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms



Signal word

DANGER

Contains:

Toluene

3-Methylbutan-1-ol

Hazard statements

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapours / spray.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor.
P331 Do NOT induce vomiting.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER / doctor.
P403+P235 Store in a well-ventilated place. Keep cool.

2.3 Other hazards

Physico-chemical hazards

Formation of explosive gas/air mixtures.

Human health dangers

If swallowed or in the event of vomiting, risk of product entering the lungs.

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
90 - < 98	Toluene CAS: 108-88-3, EINECS/ELINCS: 203-625-9, EU-INDEX: 601-021-00-3, Reg-No.: 01-2119471310-51-XXXX GHS/CLP: Flam. Liq. 2: H225 - Repr. 2: H361d - Asp. Tox. 1: H304 - STOT RE 2: H373 - Skin Irrit. 2: H315 - STOT SE 3: H336
1,5 - < 7,5	3-Methylbutan-1-ol CAS: 123-51-3, EINECS/ELINCS: 204-633-5, Reg-No.: 01-2119493725-26-XXXX GHS/CLP: Flam. Liq. 3: H226 - Acute Tox. 4: H332 - STOT SE 3: H335 - Skin Irrit. 2: H315 - Eye Dam. 1: H318

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.



SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Take off contaminated clothing and wash before reuse.
Inhalation	Ensure supply of fresh air. Remove the victim into fresh air and keep him calm. In the event of symptoms seek medical treatment. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice.
Skin contact	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor immediately.
Ingestion	Consult a doctor immediately. Do not induce vomiting. Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects
Redness
Headache
Vertigo
Dizziness
Spasms
Nausea, vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
If swallowed or in the event of vomiting, risk of product entering the lungs.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	foam, dry powder, water spray jet, carbon dioxide
Extinguishing media that must not be used	Full water jet

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Nitrogen oxides (NO_x).
Nitrous gases.
Carbon monoxide (CO)
Carbon dioxide (CO₂)

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.
Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.
Remove persons to safety.



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6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Provide good room ventilation even at ground level (vapours are heavier than air).
Avoid spilling or spraying in enclosed areas.
Avoid contact with eyes and skin. Use personal protective equipment.
Place the container in an upright position and protect it against falling over.
Open and handle container with care.
Read label for instructions in use of product.

Take precautionary measures against static discharges.
Keep away from open flames, hot surfaces and sources of ignition.
Do not smoke.
Vapours can form an explosive mixture with air.
Ground/bond container and receiving equipment.
Use explosion-proofed equipment/fittings and non-sparking tools.
Ignitable mixtures can be formed in the empty container.

Take off contaminated clothing and wash before reuse.
Cloths contaminated with product should not be kept in trouser pockets.
Do not eat, drink, smoke or take drugs at work.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Prevent penetration into the ground.
Provide solvent-resistant and impermeable floor.
Keep only in original container.

Do not store together with oxidizing agents.
Do not store together with acids.

Keep container tightly closed.
Keep container in a well-ventilated place.
Protect from heat/overheating and from sun.
Keep in a cool place. Store in a dry place.

7.3 Specific end use(s)

See product use, SECTION 1.2



SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance
Toluene
CAS: 108-88-3, EINECS/ELINCS: 203-625-9, EU-INDEX: 601-021-00-3, Reg-No.: 01-2119471310-51-XXXX
Long-term exposure: 50 ppm, 191 mg/m ³ , Sk
Short-term exposure (15-minute): 100 ppm, 384 mg/m ³
3-Methylbutan-1-ol
CAS: 123-51-3, EINECS/ELINCS: 204-633-5, Reg-No.: 01-2119493725-26-XXXX
Long-term exposure: 100 ppm, 366 mg/m ³
Short-term exposure (15-minute): 125 ppm, 458 mg/m ³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Toluene
CAS: 108-88-3, EINECS/ELINCS: 203-625-9, EU-INDEX: 601-021-00-3, Reg-No.: 01-2119471310-51-XXXX
Eight hours: 50 ppm, 192 mg/m ³ , H
Short-term (15-minute): 100 ppm, 384 mg/m ³

DNEL

Substance
Toluene, CAS: 108-88-3
Industrial, inhalative, Long-term - systemic effects: 192 mg/m ³ .
Industrial, dermal, Long-term - systemic effects: 384 mg/kg.
Industrial, inhalative, Long-term - local effects: 192 mg/m ³ .
Industrial, inhalative, Acute - systemic effects: 384 mg/m ³ .
Industrial, inhalative, Acute - local effects: 384 mg/m ³ .
3-Methylbutan-1-ol, CAS: 123-51-3
Industrial, inhalative, Acute - local effects: 292 mg/m ³ .
Industrial, inhalative, Long-term - local effects: 73 mg/m ³ .
general population, oral, Long-term - systemic effects: 12,5 mg/kg bw/day.
general population, inhalative, Acute - local effects: 218 mg/m ³ .
general population, inhalative, Long-term - local effects: 13 mg/m ³ .

PNEC

Substance
Toluene, CAS: 108-88-3
soil, 2,89 mg/kg.
sediment (seaater), 16,39 mg/kg.
sediment (freshwater), 16,39 mg/kg.
sewage treatment plants (STP), 13,61 mg/l.
seawater, 0,68 mg/l.
freshwater, 0,68 mg/l.
3-Methylbutan-1-ol, CAS: 123-51-3
soil, 1.068 mg/kg soil dw.
sediment (seaater), 0,05 mg/kg.
sediment (freshwater), 0,496 mg/kg.
sewage treatment plants (STP), 37 mg/L.



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seawater, 0,012 mg/L.

freshwater, 0,12 mg/L.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Tightly fitting goggles. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. 0,4 mm Viton, >480 min (EN 374-1/-2/-3).
Skin protection	Solvent-resistant protective clothing. Flame retardant antistatic protective clothing.
Other	Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter A-P1. (DIN EN 14387)
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	colourless
Odor	solvent-like
Odour threshold	No information available.
pH-value	No information available.
pH-value [1%]	No information available.
Boiling point [°C]	No information available.
Flash point [°C]	< 23
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	No information available.
Bulk density [kg/m³]	not applicable
Solubility in water	partially miscible
Partition coefficient [n-octanol/water]	No information available.
Viscosity	<= 20,5 mm²/s (40°C)
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.

9.2 Other information

The product is considered non-explosive; nevertheless explosive vapour/air mixture can be generated.



SECTION 10: Stability and reactivity

10.1 Reactivity

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.
Vapours can form an explosive mixture with air.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.
Reactions with strong acids.
Reactions with alkali metals.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

See SECTION 10.3.
Rubber, various plastics

10.6 Hazardous decomposition products

In the event of fire: See SECTION 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product
ATE-mix, inhalation (vapour), > 20 mg/l/4h.
Substance
Toluene, CAS: 108-88-3
LD50, dermal, Rabbit: > 5000 mg/kg (ECHA).
LD50, oral, Rat: 5580 mg/kg (ECHA).
LC50, inhalation (vapour), Rat: 28,1 mg/l/4h (ECHA).
3-Methylbutan-1-ol, CAS: 123-51-3
LD50, dermal, Rabbit: 3216 mg/kg (ECHA).
LD50, oral, Rat: > 5000 mg/kg (ECHA).
ATE, inhalation (vapour), 11 mg/l/4h (Category 4).

Serious eye damage/irritation	Risk of serious damage to eyes. Calculation method
Skin corrosion/irritation	Irritant Calculation method
Respiratory or skin sensitisation	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — single exposure	Vapours may cause drowsiness and dizziness. Calculation method
Specific target organ toxicity — repeated exposure	Ingredients: CAS 108-88-3 (Central Nervous System). May cause damage to organs through prolonged or repeated exposure. Product: May cause damage to organs through prolonged or repeated exposure. Calculation method
Mutagenicity	Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Suspected of damaging the unborn child. Calculation method
Carcinogenicity	Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	May be fatal if swallowed and enters airways. Calculation method
General remarks	Has a degreasing effect on the skin. Symptoms (If swallowed): abdominal pain, nausea, vomiting. Liver and Kidney damage is possible. Disturbances of the central nervous system. Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information**12.1 Toxicity**

Substance
Toluene, CAS: 108-88-3
LC50, (96h), fish: 5,5 mg/l.
3-Methylbutan-1-ol, CAS: 123-51-3
LC50, (96h), Salmo gairdneri: 700 mg/l (IUCLID).
EC50, (72h), Scenedesmus subspicatus: 493 mg/l (IUCLID).
EC50, (48h), Daphnia magna: 260 mg/l (IUCLID).



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12.2 Persistence and degradability

BSB5: 0,86 g/g (CAS 108-88-3)
 ThSB: 3,13 g/g (CAS 108-88-3)
 CO₂Th, Theoretical Carbon Dioxide: 3,343 mg/mg (CAS 108-88-3)
 BSB5: 1,5 g/g (CAS 123-51-3)
 ThSB: 2,73 g/g (CAS 123-51-3)
 CO₂Th, Theoretical Carbon Dioxide: 2,501 mg/mg (CAS 123-51-3)

Behaviour in environment compartments

No information available.

Behaviour in sewage plant

No information available.

Biological degradability

86 %, 20d (CAS 108-88-3)(Lit.)
 84 %, 27d (CAS 123-51-3)

12.3 Bioaccumulative potential

log Kow: 2,73, BCF 90 (CAS 108-88-3)
 log Kow: 1,35 (CAS 123-51-3)

12.4 Mobility in soil

Henry Constant: 1,34 Pa m³/mol (25°C)(CAS 123-51-3)
 The Organic Carbon normalised adsorption coefficient: 0,726 (CAS 123-51-3)

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Ecological data of complete product are not available.
 Do not discharge product unmonitored into the environment or into the drainage.
 The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

For recycling, consult manufacturer.

Waste no. (recommended)

070104*
 160506*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
 Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110*



SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID 1993

Inland navigation (ADN) 1993

Marine transport in accordance with IMDG 1993

Air transport in accordance with IATA 1993

14.2 UN proper shipping name

Transport by land according to ADR/RID Flammable liquid, n.o.s. (Toluene, 3-methyl-1-butanol)

- Classification Code F1

- Label 

- ADR LQ 1 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 2 (D/E)


Inland navigation (ADN) Flammable liquid, n.o.s. (Toluene, 3-methyl-1-butanol)

- Classification Code F1

- Label 

Marine transport in accordance with IMDG Flammable liquid, n.o.s. (Toluene, 3-methyl-1-butanol)

- EMS F-E, S-E

- Label 

- IMDG LQ 1 I

Air transport in accordance with IATA Flammable liquid, n.o.s. (Toluene, 3-methyl-1-butanol)

- Label 

14.3 Transport hazard class(es)

Transport by land according to ADR/RID 3

Inland navigation (ADN) 3

Marine transport in accordance with IMDG 3

Air transport in accordance with IATA 3



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14.4 Packing group

Transport by land according to ADR/RID II

Inland navigation (ADN) II

Marine transport in accordance with IMDG II

Air transport in accordance with IATA II

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2018).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011).

- Observe employment restrictions for people Observe employment restrictions for young people.
Observe employment restrictions for mothers-to-be and nursing mothers.

- VOC (2010/75/CE) 90 - < 100%

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information**16.1 Hazard statements (SECTION 03)**

H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H332 Harmful if inhaled.
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H315 Causes skin irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.
H361d Suspected of damaging the unborn child.
H225 Highly flammable liquid and vapour.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@/TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Flam. Liq. 2: H225 Highly flammable liquid and vapour. (Calculation method)
 Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Calculation method)
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
 Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
 Repr. 2: H361d Suspected of damaging the unborn child. (Calculation method)
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)
 STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)

Modified position

SECTION 15 deleted: EUH032 Contact with acids liberates very toxic gas.
 SECTION 2 deleted: STOT SE 3
 SECTION 2 deleted: H335 May cause respiratory irritation.



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