FE Indicator

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

1.1. Product identifier

Product Name : FE Indicator (Code S 142)

EC No: 237-722-2 CAS No: 14459-95-1

Registration No.: No registration number is given for this substance since it or is use is exempted from the registration requirements, the yearly tonnage doesn't require registration or since the transition period for its registration has not yet expired.

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

Product use: Determination of iron content

1.3. Details of the supplier of the safety data sheet

Company: Vecom Marine B.V.
Mozartlaan 3
3144 NA Maassluis
The Netherlands

Phone : + 31 (0)10 5930 210
Email : sales@vecom-marine.com

1.4. Emergency telephone number

Emergency : +49 178 433 74 34 Contact: CONSULTANK Lutz Harder

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Acc. to Regulation (EC) 1272/2008	
Hazard class / Hazard category	**Hazard statements**
Hazard to the aquatic environment, chronic, category 3	H412

2.2. Label elements

Acc. to Regulation (EC) 1272/2008

Pictograms (none)

Signal word: (none)

H statements
H412 Harmful to aquatic life with long lasting effects.

P statements
P273 Avoid release to the environment.

2.3. Other hazards

Not classified as flammable, but combustible.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name: Potassium hexacyanoferrate(II), trihydrate

Synonyms: Yellow prussiate

CAS No: 14459-95-1

EINECS No: 237-722-2

3.2. Mixtures

This product is a substance.

SECTION 4: First aid measures

4.1. Description of first aid measures

EYES CONTACT

In case of contact with the eyes, rinse for several minutes with plenty of water with eyes held open.

SKIN CONTACT

Wash with water and soap and rinse thoroughly.

INGESTION

Rinse out mouth and then drink plenty of water.

INHALATION

Supply fresh air.

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

No special information.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. There is no specific antidote.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguishing media: alcohol-resistant foam, dry fire-extinguishing media or water spray jet.

5.2. Special hazards arising from the substance or mixture

Dangerous decomposition products: carbon monoxide, carbon dioxide, oxides of nitrogen, iron oxides, hydrogen cyanide.

5.3. Advice for firefighters

Fire in closed rooms must be fighted from trained personnel wearing suitable breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: See Section 8 „Protective equipment“.

Ensure adequate ventilation. Avoid development of dust. Do not breathe dust.

6.2. Environmental precautions

Prevent material from reaching sewage system, holes and cellars. Inform respective authorities in case product reaches water or sewage system.

6.3. Methods and material for containment and cleaning up

Take up mechanically or with liquid-binding material (like sand, dry powder, vermiculite, etc.). Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.

6.4. Reference to other sections

Regarding disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure that there is sufficient ventilation of the area. Avoid direct contact with the product. Avoid development of dust.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed and store in a cool, well ventilated place. Avoid contact with water. Store away from acids.

Storage class (Germany): 13

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No information on exposure limit values.

8.2. Exposure controls

Pay attention to measures in section 7.

Personal protection equipment:

Respiratory protection: Use breathing protection in case of insufficient ventilation (filter P3).

Hand protection: Gloves (recommended material: nitrile). Protect skin by using skin protective cream.

Eye protection: Eye glasses with side protection.

Skin protection: Workwear.

Hygiene measures

Do not eat, drink or smoke at work. Keep away from food, drinks and feed.

Wash hands before breaks and after work.

Take off contaminated clothing. Avoid contact to eyes and skin.

Do not breathe dust.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: crystalline
Colour	: slightly yellow
Odour	: without
pH (20°C)	: approx.. 9,5 (100 g/l)
Melting Point	: 70°C
Boiling Point/range	: n.d.
Flash Point	: n.a.
Auto-ignition temperature	: n.a.
Explosion Limits	: lower: n.a.; upper: n.a.
Vapour Pressure	: n.a.
Relative Density	: 1,85 g/cm³
Bulk density	: 950 – 1050 kg/m³
Solubility in water	: 337 g/l (20°C)

9.2. Other information

No further information.

SECTION 10: Stability and reactivity

10.1. Reactivity

No special information.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Temperatures above 60°C, direct sunlight as well as contact with sources of heat. Generates toxic gases in contact with acids.

10.5. Incompatible materials

Acids, strong oxidising agents.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, oxides of nitrogen, iron oxides, hydrogen cyanide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

LD 50 (oral)	3613 mg/kg (rat)
LD 50 (dermal)	no data
LC 50 (inhal.) (4h)	no data

Irritation

No skin irritation. Mild irritation to eyes possible.

Sensitisation

Not known to be a sensitizer.

Repeated dose toxicity

No data available.

Carcinogenicity

No carcinogenic effects known on today's state of knowledge.

Mutagenicity

No mutagenic effects known on today's state of knowledge.

Reproduction toxicity

No data available.

Specific Target Organ Toxicity, single exposure

Not known.

Specific Target Organ Toxicity, repeated exposure

Not known.

Aspiration hazard

Not known.

SECTION 12: Ecological information

12.1. Toxicity

Fish:	LC50: no data
Crusteans:	EC50: 32 mg/l, 48 h (anhydrous)
Algae:	IC50: no data

12.2. Persistence and degradability

This product is not slightly biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Water hazard class (Germany): WGK 2. Must not reach drainage ditch or sewage water undiluted or unneutralized.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of in accordance with local regulations. Must not be disposed together with rubbish. Avoid entering sewage system.

Final allocation of waste key depends on product application. Has to be done in collaboration with waste disposal contractor.

Proposal from supplier: 16 05 09

SECTION 14: Transport information

	Road transport ADR	Railway transport RID	Inland waterway ADN	Maritime transport IMDG	Air transport IATA
14.1. UN No	Not restricted				
14.2. Proper shipping name	Not restricted				
14.3. Class	Not restricted				
14.4. Packing Group	Not restricted				
14.5. Environmental hazards	No further information				
14.6. Special pre-caution for user	No further information				
14.7. Transport in bulk acc. to MARPOL 73/78 und IBC Code	No further information				

SECTION 15: Regulatory information

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

National regulations

Water hazard class (Germany) WGK: 2

15.2. Chemical safety assessment

For the product no chemical safety assessment is available.

SECTION 16: Other information

Last revision

General review. No changes compared to previous version.

This version replaces all previous versions.

Used abbreviations

n.a.	not applicable
n.d.	not determined

Literature references and sources of information

Regulation (EC) 1907/2006 (REACH) in valid version

Regulation (EC) 1272/2008 in valid version

National Exposure Limit Values in valid version

Transport regulation acc. to ADR, RID, ADN, IMDG, IATA in valid version

Information from supplier and internal data

List of relevant hazard statements from section 2 and 3 (GHS classification)

H412	Harmful to aquatic life with long lasting effects.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Each user is responsible to determine that the product is suitable for the users intended application and that such usage complies with applicable and administrative rules and guidelines. No statement made in this data sheet shall be construed as a permission, recommendation or authorisation given or implied to practise any patented invention without a valid license. VECOM MARINE shall not be held liable for any abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

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TFE SOLUTION

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

1.1. Product identifier

Product Name : TFE Solution (Code S 141)

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

Product use: Determination of iron content

1.3. Details of the supplier of the safety data sheet

Company: Vecom Marine B.V.
Mozartlaan 3
3144 NA Maassluis
The Netherlands

Phone : + 31 (0)10 5930 210
Email : sales@vecom-marine.com

1.4. Emergency telephone number

Emergency : +49 178 433 74 34

Contact: CONSULTANK Lutz Harder

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Acc. to Regulation (EC) 1272/2008	
Hazard class / Hazard category	**Hazard statements**
Not classified	

2.2. Label elements

Acc. to Regulation (EC) 1272/2008

No labelling required

2.3. Other hazards

Not classified as flammable, but combustible.

SECTION 3: Composition/information on ingredients

3.1. Substances

This product is a mixture.

3.2. Mixtures

Component	CAS No	EINECS No	Reg. No	Classification (1272/2008/EC)	Content
Nitric acid	7697-37-2	231-714-2	01-2119487297-23-xxxx	Skin Corr. 1A; H314 Ox. Liq. 2; H272 Met. Corr. 1; H290	< 1%

SECTION 4: First aid measures

4.1. Description of first aid measures

GENEREL INFORMATION

Remove contaminated clothing, including underwear and shoes.

EYES CONTACT

In case of contact with the eyes, rinse for several minutes with plenty of water with eyes held open. If irritation persists seek medical advice.

SKIN CONTACT

In case of contact with the skin, wash off with soap and water. Remove contaminated clothing and wash skin carefully. Seek medical advice if any irritation persists.

INGESTION

Get medical advice. Do NOT induce vomiting. Rinse out mouth and then drink plenty of water. Do NOT try to neutralize!

INHALATION

If inhalation of mist, fume or vapour causes irritation of the respiratory tract, provide for fresh air. If symptoms persist, seek medical advice.

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

May causes irritation to skin and eyes. Irritation to mouth, throat and digestive tract is possible, if swallowed.

Signs for eyes and skin irritation: burning sensation, redness, swelling.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. There is no specific antidote.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguishing media : foam, CO_2 or water.

MUST NOT BE USED: extinguishing media to be fitted to the surroundings.

5.2. Special hazards arising from the substance or mixture

Dangerous decomposition products: In contact with metals generation of small amounts of hydrogen is possible (risk of explosion). In case of fire development of hazardous gases and vapours (nitrous fumes) possible.

5.3. Advice for firefighters

Fire in closed rooms must be fighted from trained personnel wearing suitable breathing apparatus.

Further information: remove container from fire area and use water spray to keep containers cool.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: See Section 8 „Protective equipment“.

Ensure adequate ventilation. Avoid contact with skin and eyes.

6.2. Environmental precautions

Protect sewage system against spilled product to avoid contamination. Do not allow to enter drains/surface waters/groundwater. Neutralize with slight caustic soda.

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal binder). Never use organic material like saw dust or cleaning cloth.

Keep appropriate amount of suitable material ready. Collect in a suitable container.

6.4. Reference to other sections

Regarding disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes. If risk of splash, use protective glasses. Wash hands after work. Prevent dry skin by using a suitable skin crème. Take off contaminated clothing. Avoid breathing vapour and fumes. Ensure that there is sufficient ventilation of the area.

7.2. Conditions for safe storage, including any incompatibilities

Store at a well-ventilated place at +15 to +25°C. If possible store protected against light.

Storage class (Germany): 12

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component (CAS No)	Source	AGW	Remark
Nirtric acid (7697-37-2)	TRGS 900	2 ml/m³ 5,2 mg/m³	Excursion factor 1 Duration 15 min, mean; 4 times per shift; interval 1 hour Category I - Substances for which local irritant effects determine the exposure limit value, also respiratory allergens (EU)

8.2. Exposure controls

Pay attention to measures in section 7.

Personal protection equipment:

Respiratory protection: Respiratory protection is required when vapours/aerosols are generated (gas filter E, possibly in combination with particle filter P).

Hand protection: Gloves, recommended material: fluor cautchouc. Preventive skin protection with crème is recommended.

Eye protection: Eye glasses with side protection.

Skin protection: Work clothing.

Hygiene measures

Eye shower to be available.

Do not eat, drink or smoke at work. Keep away from food, drink and feeding stuff.

Wash hands before breaks and after work.

Take off contaminated clothing. Avoid contact with eyes and skin.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: liquid
Colour	: colourless
Odour	: without
pH (20°C)	: 2,5 – 3,5
Melting Point	: -41,59°C
Boiling Point/range	: 83°C (decomposition)
Flash Point	: not flammable
Auto-ignition temperature	: n.a.
Explosion Limits	: upper: n.a.; lower: n.a.
Vapour Pressure	: 63,7 mbar (20°C)
Relative Density	: approx. 1,5129 g/cm³ (20°C)
Solubility in water	: mixible

9.2. Other information

No further information.

SECTION 10: Stability and reactivity

10.1. Reactivity

No special information.

10.2. Chemical stability

Stable under normal conditions of use. Oxidizing agent.

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Violent reaction with alkalines and water under strong development of heat.

10.5. Incompatible materials

Metals.

10.6. Hazardous decomposition products

Nitrous gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Nitric acid (CAS 7697-37-2):

LD50 (oral, rat)	5275 mg/kg
LD 50 (dermal, rabbit)	n.d.
LC 50 (inh., rat)	28 mg/l

Irritation

May causes irritation to skin and eyes. Irritation to mouth, throat and digestive tract is possible, if swallowed.

Sensitisation

Not known to be a sensitizer.

Repeated dose toxicity

Frequent persistent contact with the skin may cause slight skin irritation.

Carcinogenicity

No carcinogenic effects known on today's state of knowledge.

Mutagenicity

No mutagenic effects known on today's state of knowledge.

Reproduction toxicity

No reproduction toxic effects known on today's state of knowledge.

Specific Target Organ Toxicity, single exposure

No effects known on today's state of knowledge.

Specific Target Organ Toxicity, repeated exposure

No effects known on today's state of knowledge.

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Nitric acid (CAS 7697-37-2):

Fish:	LC 50, 72 h	72 mg/l (Gambusia affinis)
Crusteans:	EC 0	107 mg/l (Daphnia magna)
Algae:	No data available.	

12.2. Persistence and degradability

This product is not biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Liquid. Soluble in water.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Biological effects: Hazardous effects caused by pH shift.

Water hazard class (Germany): WGK 1 (self-classification). Prevent product entering sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose off according to regulations. Must not be disposed off together with domestic waste. Avoid entering sewer system.

Final allocation of waste key depends on product application. Has to be done in collaboration with waste disposal contractor.

Proposal from supplier: 16 05 06* laboratory chemicals, which are hazardous material or contain such, including mixtures of laboratory chemicals.

SECTION 14: Transport information

	Road transport ADR	Railway transport RID	Inland waterway ADN	Maritime transport IMDG	Air transport IATA
14.1. UN No	Not restricted				
14.2. Proper shipping name	Not restricted				
14.3. Class	Not restricted				
14.4. Packing Group	Not restricted				
14.5. Environmental hazards	No further information				
14.6. Special pre-caution for user	No further information				
14.7. Transport in bulk acc. to MARPOL 73/78 und IBC Code	No further information				

SECTION 15: Regulatory information

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

National regulations

Water hazard class (Germany) WGK: 0 (self-classification)

15.2. Chemical safety assessment

For the product no chemical safety assessment is available.

SECTION 16: Other information

Last revision

General review. No changes compared to previous version.

This version replaces all previous versions.

Used abbreviations

n.a.	not applicable
n.d.	not determined

Literature references and sources of information

Regulation (EC) 1907/2006 (REACH) in valid version

Regulation (EC) 1272/2008 in valid version

National Exposure Limit Values in valid version

Transport regulation acc. to ADR, RID, ADN, IMDG, IATA in valid version

Information from supplier and internal data

List of relevant hazard statements from section 2 and 3 (GHS classification)

H272	May cause or intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Each user is responsible to determine that the product is suitable for the users intended application and that such usage complies with applicable and administrative rules and guidelines. No statement made in this data sheet shall be construed as a permission, recommendation or authorisation given or implied to practise any patented invention without a valid license. VECOM MARINE shall not be held liable for any abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.