

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : Instru Star rfu
UFI : PGPO-Q0AM-Y00P-6NHY

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Professional uses
Use of the substance/mixture : Medical device
IIb

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet**Manufacturer/Supplier**

Laboratorium Dr. Deppe GmbH
Hooghe Weg 35
D-47906 Kempen
T +49 21 52 55 65 0 - F +49 21 52 50 84 9
sdb@dr-deppe.de - www.dr-deppe.de

Email competent person

sdb@dr-deppe.de

1.4. Emergency telephone number

Emergency number : INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS07

GHS09

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Precautionary statements (CLP) : P273 - Avoid release to the environment.
P280 - Wear eye protection, face 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.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P391 - Collect spillage.

2.3. Other hazards

PBT: not relevant – no registration required
vPvB: not relevant – no registration required

Component	
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
propan-2-ol (67-63-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
boric acid (10043-35-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component	
boric acid(10043-35-3)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	(CAS-No.) 68424-85-1 (EC-No.) 270-325-2 (REACH-no) 01-2119965180-41-xxxx	≥ 1 – < 2.5	Acute Tox. 4 (Oral), H302 (ATE=795 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Amines, N-C12-14-alkyltrimethylenedi-	(CAS-No.) 90640-43-0 (EC-No.) 292-562-0 (REACH-no) 01-2119957843-25-xxxx	$\geq 0.25 - < 1$	Acute Tox. 3 (Oral), H301 (ATE=200 mg/kg bodyweight) Skin Corr. 1B, H314 STOT RE 1, H372 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410
propan-2-ol substance with national workplace exposure limit(s) (GB)	(CAS-No.) 67-63-0 (EC-No.) 200-661-7 (EC Index-No.) 603-117-00-0 (REACH-no) 01-2119457558-25-xxxx	$\geq 0.25 - < 1$	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
boric acid substance listed as REACH Candidate	(CAS-No.) 10043-35-3 (EC-No.) 233-139-2 (EC Index-No.) 005-007-00-2 (REACH-no) 01-2119486683-25-xxxx	$\geq 0.25 - < 1$	Repr. 1B, H360FD
ethanol substance with national workplace exposure limit(s) (GB)	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5 (REACH-no) 01-2119457610-43-xxxx	$\geq 0.1 - < 0.25$	Flam. Liq. 2, H225 Eye Irrit. 2, H319

Specific concentration limits:

Name	Product identifier	Specific concentration limits
boric acid	(CAS-No.) 10043-35-3 (EC-No.) 233-139-2 (EC Index-No.) 005-007-00-2 (REACH-no) 01-2119486683-25-xxxx	(5.5 \leq C < 100) Repr. 1B, H360FD
ethanol	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5 (REACH-no) 01-2119457610-43-xxxx	(50 \leq C < 100) Eye Irrit. 2, H319

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam. Carbon dioxide.
------------------------------	--

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Nitrogen oxides. Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Avoid sub-soil penetration. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.

Other information : Disposal must be done according to official regulations.

6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Protect against frost.

Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

No additional information available

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

ethanol (64-17-5)	
United Kingdom - Occupational Exposure Limits	
Local name	Ethanol
WEL TWA (OEL TWA) [1]	1920 mg/m ³
WEL TWA (OEL TWA) [2]	1000 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

propan-2-ol (67-63-0)	
United Kingdom - Occupational Exposure Limits	
Local name	Propan-2-ol
WEL TWA (OEL TWA) [1]	999 mg/m ³
WEL TWA (OEL TWA) [2]	400 ppm
WEL STEL (OEL STEL)	1250 mg/m ³
WEL STEL (OEL STEL) [ppm]	500 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

ethanol (64-17-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	343 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	950 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	87 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	114 mg/m ³
Long-term - systemic effects, dermal	206 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.96 mg/l
PNEC aqua (marine water)	0.79 mg/l
PNEC aqua (intermittent, freshwater)	2.75 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	3.6 mg/kg dwt
PNEC sediment (marine water)	2.9 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.63 mg/kg dwt

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

PNEC (Oral)	
PNEC oral (secondary poisoning)	0.38 kg/kg food
PNEC (STP)	
PNEC sewage treatment plant	580 mg/l

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	5.7 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.96 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	3.4 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.64 mg/m ³
Long-term - systemic effects, dermal	3.4 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.0009 mg/l
PNEC aqua (marine water)	0.00096 mg/l
PNEC aqua (intermittent, freshwater)	0.00016 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	12.27 mg/kg dwt
PNEC sediment (marine water)	13.09 mg/kg dwt
PNEC (Soil)	
PNEC soil	7 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	0.4 mg/l

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	5.6 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	39.5 µg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	2 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	6.96 µg/m ³
Long-term - systemic effects, dermal	2 µg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.0032 mg/l
PNEC aqua (marine water)	0.00032 mg/l
PNEC aqua (intermittent, marine water)	0.00065 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.72 mg/kg dwt
PNEC sediment (marine water)	0.172 mg/kg dwt
PNEC (Soil)	
PNEC soil	10 mg/kg dwt

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

PNEC (Oral)	
PNEC oral (secondary poisoning)	0.0089 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	0.205 mg/l
propan-2-ol (67-63-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	888 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	500 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	26 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	89 mg/m ³
Long-term - systemic effects, dermal	319 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	140.9 mg/l
PNEC aqua (marine water)	140.9 mg/l
PNEC aqua (intermittent, freshwater)	140.9 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	552 mg/kg dwt
PNEC sediment (marine water)	552 mg/kg dwt
PNEC (Soil)	
PNEC soil	28 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	160 mg/kg
PNEC (STP)	
PNEC sewage treatment plant	2251 mg/l
boric acid (10043-35-3)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	68.6 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.45 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.17 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.97 mg/m ³
Long-term - systemic effects, dermal	34.3 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	2.9 mg/l
PNEC aqua (marine water)	2.9 mg/l
PNEC (Soil)	
PNEC soil	5.7 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Not required for normal conditions of use. Safety goggles recommended during refilling. EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. EN ISO 13688. EN 13034

Hand protection:

Not required for normal conditions of use. Handling large quantities of product: In case of repeated or prolonged contact wear gloves. Nitrile rubber. EN 374. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

8.2.2.3. Respiratory protection

Respiratory protection:

No respiratory protection needed under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment. Short term exposure. Breathing apparatus with filter. A-P2. EN 143. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: colourless.
Appearance	: clear.
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: 100 °C
Flammability	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: Not available

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 8 – 9
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: 0.99 – 1.1 g/cm ³
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Instru Star rfu	
ATE CLP (oral)	> 10000 mg/kg bodyweight

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	
LD50 oral rat	795 mg/kg (OECD 401 method)
LD50 dermal rabbit	≈ 3412 mg/kg (24 h)

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
LD50 oral rat	200 mg/kg bodyweight (OECD 423 method)

Skin corrosion/irritation	: Causes skin irritation. pH: 8 – 9
Serious eye damage/irritation	: Causes serious eye irritation. pH: 8 – 9
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)

boric acid (10043-35-3)	
NOAEL (chronic, oral, animal/male, 2 years)	> 5000 ppm (103 weeks;(OECD 451 method))

Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
-----------------------	---

boric acid (10043-35-3)	
LOAEL (animal/male, F0/P)	336 mg/kg bodyweight/day (rat)
LOAEL (animal/female, F0/P)	336 mg/kg bodyweight/day (rat)
LOAEL (animal/male, F1)	58.5 mg/kg bodyweight/day (rat)
LOAEL (animal/female, F1)	58.8 mg/kg bodyweight/day (rat)
NOAEL (animal/male, F0/P)	17.5 mg/kg bodyweight/day (rat)
NOAEL (animal/female, F0/P)	17.5 mg/kg bodyweight/day (rat)
NOAEL (animal/male, F1)	17.5 mg/kg bodyweight/day (rat)
NOAEL (animal/female, F1)	17.5 mg/kg bodyweight/day (rat)

STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
----------------------	---

STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
------------------------	---

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
-------------------	---

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.
-------------------	--

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	
LC50 - Fish [1]	0.85 mg/l (96 h; Pimephales promelas; (OECD 203 method))
EC50 - Crustacea [1]	0.016 mg/l (48 h; Daphnia magna; (OECD 202 method))
ErC50 algae	0.03 mg/l (96 h; Pseudokirchneriella subcapitata; (OECD 201 method))
NOEC chronic crustacea	0.025 mg/l (21 d; Daphnia magna; (OECD 211 method))

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
LC50 - Fish [1]	0.148 mg/l (96 h; Danio rerio; Read-across; (OECD 203 method))
ErC50 algae	0.0652 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))
NOEC chronic crustacea	0.032 mg/l (21 d; Daphnia magna; (OECD 211 method))
NOEC chronic algae	0.0406 mg/l (EC10: 72 h; Pseudokirchneriella subcapitata; (OECD 201 method))

12.2. Persistence and degradability

ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable.
Biodegradation	84 % (20 d)

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	
Persistence and degradability	Readily biodegradable.
Biodegradation	> 60 % (OECD 301D method)

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
Persistence and degradability	Readily biodegradable.
Biodegradation	66 % (28 d; Read-across; (OECD 301D method))

propan-2-ol (67-63-0)	
Persistence and degradability	Readily biodegradable.
Biodegradation	53 % (5 d)

boric acid (10043-35-3)	
Persistence and degradability	Biodegradable.

12.3. Bioaccumulative potential

ethanol (64-17-5)	
Partition coefficient n-octanol/water (Log Kow)	-0.35 (20 °C)
Bioaccumulative potential	Bioaccumulation unlikely.

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	
Bioconcentration factor (BCF REACH)	79 (OECD 305 method)
Partition coefficient n-octanol/water (Log Kow)	2.88 (OECD 107 method)

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	
Partition coefficient n-octanol/water (Log Pow)	-0.61 (24,7 °C, pH 6,8; (OECD 123 method))

propan-2-ol (67-63-0)	
Partition coefficient n-octanol/water (Log Pow)	0.05 (25 °C)
Bioaccumulative potential	Bioaccumulation unlikely.

boric acid (10043-35-3)	
Partition coefficient n-octanol/water (Log Pow)	-1.09 (22 °C)
Bioaccumulative potential	There is no bioaccumulation.

12.4. Mobility in soil

ethanol (64-17-5)	
Surface tension	22.31 mN/m (20 °C)

propan-2-ol (67-63-0)	
Ecology - soil	Expected to be highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Instru Star rfu	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	

Component	
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
propan-2-ol (67-63-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
boric acid (10043-35-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Disposal must be done according to official regulations. European waste catalogue. Do not discharge into drains or the environment. Do not dispose of with domestic waste.
Product/Packaging disposal recommendations	: Recycle or dispose of in compliance with current legislation.

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

HP Code : HP4 - "Irritant — skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.
 HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternäre Ammoniumverbindungen, Benzyl-C12-16-alkyldimethyl-, Chloride ;)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides)	Environmentally hazardous substance, liquid, n.o.s. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides)
Transport document description				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternäre Ammoniumverbindungen, Benzyl-C12-16-alkyldimethyl-, Chloride ;), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides), 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user


Overland transport

Classification code (ADR) : M6
 Special provisions (ADR) : 274, 335, 375, 601
 Limited quantities (ADR) : 5I
 Excepted quantities (ADR) : E1
 Transport category (ADR) : 3
 Hazard identification number (Kemler No.) : 90

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Orange plates	:	
Tunnel restriction code (ADR)	:	-
EAC code	:	•3Z
Transport by sea		
Special provisions (IMDG)	:	274, 335, 969
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-F
Air transport		
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y964
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	964
PCA max net quantity (IATA)	:	450L
CAO max net quantity (IATA)	:	450L
Special provisions (IATA)	:	A97, A158, A197
Inland waterway transport		
Classification code (ADN)	:	M6
Special provisions (ADN)	:	274, 335, 375, 601
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Additional requirements/Remarks (ADN)	:	
Rail transport		
Classification code (RID)	:	M6
Special provisions (RID)	:	274, 335, 375, 601
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Transport category (RID)	:	3
Hazard identification number (RID)	:	90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on
3(a)	ethanol ; propan-2-ol
3(b)	Instru Star rfu ; ethanol ; Amines, N-C12-14-alkyltrimethylenedi- ; propan-2-ol
3(c)	Instru Star rfu ; Amines, N-C12-14-alkyltrimethylenedi-
30.	boric acid
40.	ethanol ; propan-2-ol

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: boric acid (EC 233-139-2, CAS 10043-35-3)

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Other information, restriction and prohibition regulations : Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC.

Directive 2012/18/EU (SEVESO III)

Seveso III Part I (Categories of dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1	100	200

15.1.2. National regulations

United Kingdom

National regulations : This safety data sheet is for informational purposes only and does not comply with national legal requirements without reference to a national distributor. The national distributor is responsible for a legally compliant safety data sheet.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency). MSDSs of the suppliers. Information provided by the manufacturer.

Department issuing data : KFT Chemieservice GmbH

specification sheet: Im Leuschnerpark 3

D-64347 Griesheim

Phone: +49 6155-8981-400

Fax: +49 6155 8981-500

SDS Service: +49 6155 8981-522

Contact person : Barbara Stark

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Calculation method

Instru Star rfu

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Eye Irrit. 2	H319	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 3	H412	Calculation method

KFT SDS EU 01

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.