HYDRANAL™Titrant 5 E

34732-4X2.5L

Version 3.2 Revision Date 06.11.2025 Supersedes 2

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

1.1. Product identifier

Product name	:	HYDRANAL™Titrant 5 E
SDS-number	:	000000020507
Type of product	:	Mixture
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.

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

Use of the Substance/Mixture	:	Laboratory chemicals
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Solstice Advanced Materials US, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:	(49) 5137-999 0	
For further information, please contact:	:	SafetyDataSheet@solstice.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1 303-739-1378 (Medical)
	:	Poison Control Center: United Kingdom: (+44) 844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Flammable liquids Category 2
H225 Highly flammable liquid and vapour.
Eye irritation Category 2
H319 Causes serious eye irritation.
Reproductive toxicity Category 1B
H360D May damage the unborn child.
Specific target organ toxicity - repeated exposure Category 2
H373 May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :



Signal word : Danger

Hazard statements :	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H360D	May damage the unborn child.
	H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary statements :	P201	Obtain special instructions before use.
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P260	Do not breathe mist or vapours.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing 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.
	P308 + P313	IF exposed or concerned: Get medical advice/ attention.
	P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label : iodine
1H-Imidazole monohydriodide

2.3. Other hazards

Do not breathe vapours or spray mist. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Product does not contain substances that are persistent, mobile, and toxic (PMT/vPvM) at levels of 0.1 % or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	CAS-No. Index-No. EC-No.	Classification 1272/2008	Concentration	Remarks
ethyl alcohol	64-17-5 603-002-00-5 200-578-6	Flam. Liq. 2; H225 Eye Irrit. 2; H319	>= 80 % - < 100 %	Eye Irrit. 2; H319:>= 50 %
iodine	7553-56-2 053-001-00-3 231-442-4	Acute Tox. 4; H302; Oral Acute Tox. 4; H332; Inhalation Acute Tox. 4; H312; Dermal Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335; Respiratory system STOT RE 1; H372 Aquatic Acute 1; H400	>= 1 % - < 10 %	
1H-Imidazole monohydriodide	68007-08-9 460-240-0	Acute Tox. 4; H302; Oral Repr. 1B; H360D	>= 1 % - < 10 %	

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
Move out of dangerous area. First aider needs to protect himself. Take off all contaminated clothing immediately.

Inhalation:
Remove to fresh air. Keep patient warm and at rest. Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water. If skin irritation persists, call a physician.

Eye contact:
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Protect unharmed eye.

Ingestion:
When swallowed, allow water to be drunk. Do NOT induce vomiting. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:
Carbon monoxide
Hydrogen halides

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Ensure adequate ventilation.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.
Pick for disposal in tightly closed containers

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Exhaust ventilation at the object is necessary.

Advice on protection against fire and explosion:
Keep away from sources of ignition - No smoking. The heavy vapours can overcome a considerable distance up to the source of ignition.

Hygiene measures:
Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Keep only in the original container, tightly closed, in a well ventilated place. Store at room temperature. (Ambient temperature: > 0 < 35°C) Protect from atmospheric moisture and water.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
ethyl alcohol	EH40 WEL TWA	1.920 mg/m3 1.000 ppm		

iodine	EH40 WEL			Listed
iodine	EH40 WEL STEL	1,1 mg/m3 0,1 ppm		
ethyl alcohol	EH40 WEL TWA	1.920 mg/m3 1.000 ppm		
iodine	EH40 WEL			Listed
iodine	EH40 WEL STEL	1,1 mg/m3 0,1 ppm		

EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
TWA - Time weighted average
EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
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EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
STEL - Short term exposure limit

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
ethyl alcohol	Workers / Acute local effects		1900 mg/m3	Inhalation	
ethyl alcohol	Workers / Long-term systemic effects		343mg/kg bw/d	Skin contact	
ethyl alcohol	Workers / Long-term systemic effects		950 mg/m3	Inhalation	
ethyl alcohol	Consumers / Long-term systemic effects		114 mg/m3	Inhalation	
ethyl alcohol	Consumers / Acute local effects		950 mg/m3	Inhalation	
ethyl alcohol	Consumers /		206mg/kg	Skin contact	

	Long-term systemic effects		bw/d		
ethyl alcohol	Consumers / Long-term systemic effects		87mg/kg bw/d	Ingestion	
iodine	Workers / Long-term systemic effects		0,07 mg/m3	Inhalation	
iodine	Workers / Long-term systemic effects		0,01mg/kg bw/d	Skin contact	

Component	Environmental compartment / Value	Remarks
ethyl alcohol	Fresh water: 0,96 mg/l	
ethyl alcohol	Marine water: 0,79 mg/l	
ethyl alcohol	Fresh water sediment: 3,6 mg/kg	
ethyl alcohol	Soil: 0,63 mg/kg	
iodine	Fresh water sediment: 0,01813 mg/l	
iodine	Marine water: 0,06001 mg/l	
iodine	Sewage treatment plant: 11 mg/l	Assessment factor: 10
iodine	Fresh water sediment: 3,99 mg/kg dw	
iodine	Marine sediment: 20,22 mg/kg dw	
iodine	Soil: 5,95 mg/kg dw	
1H-Imidazole monohydriodide	Fresh water: 0,0014 mg/l	Assessment factor: 1000
1H-Imidazole monohydriodide	Marine water: 0,00014 mg/l	Assessment factor: 1000
1H-Imidazole monohydriodide	Fresh water sediment: 0,0076 mg/kg dw	

1H-Imidazole monohydriodide	Marine sediment: 0,00076 mg/kg dw	
1H-Imidazole monohydriodide	Sewage treatment plant: 32 mg/l	Assessment factor: 10
1H-Imidazole monohydriodide	Soil: 0,0007 mg/kg dw	

8.2. Exposure controls

Occupational exposure controls

Do not breathe vapours/dust.
Recommended preventive skin protection
Take off all contaminated clothing immediately.
When using do not smoke.
The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Personal protective equipment
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection:
Glove material: Nitrile rubber
Camatril® 730
Gloves must be inspected prior to use.
Replace when worn.

Eye protection:
Safety goggles

Skin and body protection:
Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	:	liquid
(b) Colour	:	dark brown
(c) Odour	:	characteristic
(d) Melting point/freezing point	:	No data available
(e) Boiling point/boiling range	:	77 °C
(g) Lower and upper explosion limit	:	Lower explosion limit No data available
	:	Upper explosion limit No data available
(h) Flash point	:	12 °C
(i) Auto-ignition temperature	:	Not applicable No data available
(j) Decomposition temperature	:	No decomposition if used as directed.
(k) pH	:	No data available
(l) Viscosity, kinematic	:	No data available
(m) Solubility(ies)	:	Water solubility: No data available
(n) Partition coefficient: n-octanol/water	:	No data available

(o) Vapour pressure	:	No data available
(p) Density and / or relative density	:	0,888 g/cm3 at 20 °C
(q) Relative vapour density	:	No data available
(r) Particle characteristics	:	No data available

9.2 Other Information

Polymer characteristics	:	No data available
Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Formation of explosive gas/air mixtures.

10.6. Hazardous decomposition products

Carbon monoxide
Carbon dioxide (CO2)
Iodine compounds

SECTION 11: Toxicological information

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

(a) Acute toxicity

Acute oral toxicity:
No data available

Acute toxicity estimate
Value: > 2.000 mg/kg
Method: Calculation method

Acute dermal toxicity:
No data available

Acute toxicity estimate
Value: > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity:
No data available

Acute toxicity estimate
Value: > 5 mg/l
Exposure time: 4 h
Method: Calculation method

Acute toxicity (other routes of administration):
No data available

(b) Skin corrosion/irritation:
No data available

(c) Serious eye damage/eye irritation:
No data available

(d) Respiratory or skin sensitisation:
No data available

(e) Germ cell mutagenicity:
Note: No data available

(g) Reproductive toxicity:
Remarks: No data available
Test Type: reproductive and developmental toxicity study
Species: Rat
Result: Teratogenic effects
Remarks: 1H-Imidazole monohydriodide
(h) STOT-single exposure:
Remarks: No data available

(i) STOT - repeated exposure:
Note: No data available
STOT - repeated exposure:
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

(j) Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
No data available

Toxicity to aquatic plants:
No data available

Toxicity to aquatic invertebrates:
No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number or ID number
ADR/RID:1170 IMDG:1170 IATA:1170

14.2 UN proper shipping name
ADR/RID:ETHANOL SOLUTION
IMDG:ETHANOL SOLUTION
IATA:Ethanol solution

14.3 Transport hazard class(es)
ADR/RID:3 IMDG: 3 IATA: 3

14.4 Packaging group
ADR/RID:II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID:no Marine pollutant: no

14.6 Special precautions for user
No data available

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).

Other inventory information

USA. List of Active Substances on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as amended
All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

Note
Note: Because of the potential specific inventory listing of components of this product line, further, more detailed information can be requested from SafetyDataSheet@solstice.com.

Taiwan Chemical Substance Inventory (TCSI)
Not in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

ethyl alcohol	:	H225	Highly flammable liquid and vapour.
		H319	Causes serious eye irritation.
iodine	:	H302	Harmful if swallowed.
		H332	Harmful if inhaled.
		H312	Harmful in contact with skin.
		H315	Causes skin irritation.
		H319	Causes serious eye irritation.
		H335	May cause respiratory irritation.

		H372 Causes damage to organs through prolonged or repeated exposure.
		H400 Very toxic to aquatic life.
1H-Imidazole monohydriodide	:	H302 Harmful if swallowed.
		H360D May damage the unborn child.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

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