

**Safety data sheet**  
**according to 1907/2006/EC, Article 31 Commission**  
**regulation (EU) 2020/878**

Printing date 29.03.2023

Version number 4.0 (replaces version 3.0)

Revision: 29.03.2023

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

### 1.1 Product identifier

• **Trade name:** Hanus solution, IBr solution 0,1 mol/l (0,2 N)

• **Article number:** RE0020

• **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.

• **Application of the substance / the preparation:** Laboratory reagent

### 1.3 Details of the supplier of the safety data sheet

#### • **Manufacturer/Supplier:**

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

#### • **Regional representation:**

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Further information obtainable from:** Technical Department

### 1.4 Emergency telephone number:

Toxicological Information National Institute of Toxicology and Forensic Sciences: + 34 91 562 04 20. The information will be provided (24h/365 days)

Please contact the regional Scharlab distributor/dealer in your country

During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

• **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H312 Harmful in contact with skin.

### 2.2 Label elements

• **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

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**Hazard pictograms**

GHS02 GHS05 GHS07

**Signal word** Danger**Hazard-determining components of labelling:**acetic acid  
iodine bromide**Hazard statements**H226 Flammable liquid and vapour.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards****Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 64-19-7	acetic acid	≥90-≤100%
EINECS: 200-580-7	⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314	
Reg.nr.: 01-2119475328-30-XXXX	Specific concentration limits:	
	Skin Corr. 1A; H314: C ≥90 %	
	Skin Corr. 1B; H314: 25 % ≤ C < 90 %	
	Skin Irrit. 2; H315: 10 % ≤ C < 25 %	
	Eye Irrit. 2; H319: 10 % ≤ C < 25 %	
CAS: 7789-33-5	iodine bromide	≥1-<2%
EINECS: 232-159-9	⚠ Skin Corr. 1B, H314; ⚠ STOT SE 3, H335	

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

## SECTION 4: First aid measures

**4.1 Description of first aid measures****General information:** Immediately remove any clothing soiled by the product.

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- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Do not eat, drink or smoke during use.  
Wash hands after handling.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.

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See product's label for recommended storage temperature.

- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

**64-19-7 acetic acid**WEL Short-term value: 50 mg/m<sup>3</sup>, 20 ppmLong-term value: 25 mg/m<sup>3</sup>, 10 ppm

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

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Fluid

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• <b>Colour:</b>	Brown
• <b>Odour:</b>	Pungent
• <b>Odour threshold:</b>	Not determined.
• <b>Melting point/freezing point:</b>	17 °C
• <b>Boiling point or initial boiling point and boiling range</b>	118 °C
• <b>Flammability</b>	Flammable.
• <b>Lower and upper explosion limit</b>	
• <b>Lower:</b>	4 Vol %
• <b>Upper:</b>	20 Vol %
• <b>Flash point:</b>	40 °C
• <b>Ignition temperature:</b>	485 °C
• <b>Decomposition temperature:</b>	Not determined.
• <b>pH at 20 °C</b>	2.5
• <b>Viscosity:</b>	
• <b>Kinematic viscosity</b>	Not determined.
• <b>Dynamic:</b>	Not determined.
• <b>Solubility</b>	
• <b>water:</b>	Not miscible or difficult to mix.
• <b>Partition coefficient n-octanol/water (log value)</b>	
• <b>Vapour pressure at 20 °C:</b>	Not determined.
• <b>Density and/or relative density</b>	16 hPa
• <b>Density at 20 °C:</b>	1.069 g/cm <sup>3</sup>
• <b>Relative density</b>	Not determined.
• <b>Vapour density</b>	Not determined.
• <b>9.2 Other information</b>	
• <b>Appearance:</b>	
• <b>Form:</b>	Fluid
• <b>Important information on protection of health and environment, and on safety.</b>	
• <b>Auto-ignition temperature:</b>	Product is not selfigniting.
• <b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
• <b>Solvent content:</b>	
• <b>Organic solvents:</b>	98.1 %
• <b>Solids content:</b>	1.9 %
• <b>Molecular weight</b>	60.05 g/mol
• <b>Change in condition</b>	
• <b>Evaporation rate</b>	Not determined.
• <b>Information with regard to physical hazard classes</b>	
• <b>Explosives</b>	Void
• <b>Flammable gases</b>	Void
• <b>Aerosols</b>	Void
• <b>Oxidising gases</b>	Void
• <b>Gases under pressure</b>	Void
• <b>Flammable liquids</b>	Flammable liquid and vapour.
• <b>Flammable solids</b>	Void
• <b>Self-reactive substances and mixtures</b>	Void
• <b>Pyrophoric liquids</b>	Void
• <b>Pyrophoric solids</b>	Void
• <b>Self-heating substances and mixtures</b>	Void

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- |  |      |
|--|------|
| • <b>Substances and mixtures, which emit flammable gases in contact with water</b> | Void |
| • <b>Oxidising liquids</b>   | Void |
| • <b>Oxidising solids</b>  | Void |
| • <b>Organic peroxides</b>   | Void |
| • <b>Corrosive to metals</b>   | Void |
| • <b>Desensitised explosives</b>   | Void |

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** Highly flammable liquid and vapours.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**  
Heat  
A range of 15K below the flash point should be considered critical.
- **10.5 Incompatible materials:**
  - Metals, metal alloys.
  - Gives off hydrogen by reaction with metals.
  - It can be corrosive for metals.
- **10.6 Hazardous decomposition products:** In case of fire: see section 5.

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful in contact with skin.
- **LD/LC50 values relevant for classification:**

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**64-19-7 acetic acid**

Oral	LD50	3,310 mg/kg (rat)
Inhalative	LC50/4 h	40 mg/l (mouse)
- **Skin corrosion/irritation**  
Skin - Rabbit  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Risk of corneal clouding.  
Risk of blindness.  
Causes serious eye damage.
- **Germ cell mutagenicity**  
Ames test  
Salmonella typhimurium  
Result: negative
- **11.2 Information on other hazards**
- **Endocrine disrupting properties**

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None of the ingredients is listed.

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**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

Toxicity to fish

LC50 - *Leopomis macrochirus* (Moonfish Blugill) - 75 mg/L - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC5 - *E. sulcatum* - 78 mg/L - 72h

Remarks: neutral (maximum permissible toxic concentration)(Lit.)

EC50 static test - *Ceriodaphnia* (Water flea) - 47 mg/L - 24 h

Toxicity to algae

NOEC - *Scenedesmus quadricauda* (Green algae) - 4000 mg/L - 16 d

Toxicity to bacteria

EC50 - *Pseudomonas putida* - 2850 mg/L - 16 hCE50 - *Photobacterium phosphoreum* - 11 mg/L - 15 min**12.2 Persistence and degradability**

Aerobic - Exposure time: 30 d

Result: 99 % - Readily Biodegradable

(OECD TG 301B)

Biochemical Oxygen Demand (BOD): 880 mg/g (Lit.)

Ratio BOD/ThBOD: 76 % (IUCLID)

**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**12.7 Other adverse effects**

Additional ecological information

Danger to drinking water supplies.

Discharge into the environment must be avoided.

**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****14.1 UN number or ID number****ADR, IMDG, IATA**

UN2789

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**14.2 UN proper shipping name****ADR**

2789 ACETIC ACID, GLACIAL

**IMDG, IATA**

ACETIC ACID, GLACIAL

**14.3 Transport hazard class(es)****ADR****Class**

8 Corrosive substances.

**Label**

8+3

**IMDG****Class**

8 Corrosive substances.

**Label**

8/3

**IATA****Class**

8 Corrosive substances.

**Label**

8 (3)

**14.4 Packing group****ADR, IMDG, IATA**

II

**14.5 Environmental hazards:****Marine pollutant:**

No

**14.6 Special precautions for user**

Warning: Corrosive substances.

**Hazard identification number (Kemler code):**

83

**EMS Number:**

F-E, S-C

**Segregation groups**

(SGG1) Acids

**Stowage Category**

A

**Segregation Code**SG36 Stow "separated from" SGG18-alkalis.  
SG49 Stow "separated from" SGG6-cyanides**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**Transport/Additional information:****ADR****Limited quantities (LQ)**

1L

**Transport category**

2

**Tunnel restriction code**

D/E

**UN "Model Regulation":**

UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

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**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** N/A
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

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

- **Relevant phrases**  
H226 Flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.
- **Department issuing SDS:** Product Safety Department
- **Contact:** msds@scharlab.com
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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**Annex: Exposure scenario****Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

**2 - Conditions of use****Duration and frequency** 5 workdays/week.**Physical parameters****Physical state** Fluid**Concentration of the substance in the mixture** The substance is main component.**Other operational conditions****Other operational conditions affecting environmental exposure** No special measures required.**Other operational conditions affecting worker exposure**

Avoid contact with eyes.

Avoid contact with the skin.

**Other operational conditions affecting consumer exposure** No special measures required.**Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

**Risk management measures****Worker protection****Organisational protective measures** No special measures required.**Technical protective measures**

Ensure that suitable extractors are available on processing machines

**Personal protective measures**

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Measures for consumer protection** Ensure adequate labelling.**Environmental protection measures****Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

**Disposal measures**

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

**Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Waste type** Partially emptied and uncleaned packaging**3 - Exposure estimation****Consumer** Not relevant for this Exposure Scenario.**4 - Guidance for downstream users** No further relevant information available.