Fehling B reagent AGR

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 17/03/2011 Revision date: 15/05/2025 Supersedes version of: 12/09/2023 Version: 3.4

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

1.1. Product identifier

Product form : Mixture
Name : Fehling B reagent
Trade name : Fehling B reagent AGR
UFI : CF30-40WK-500P-9CFG
Product code : FEHL-B0A

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

Relevant identified uses

Main use category : Laboratory use

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt, SPAIN
ES
T +34 937 07 79 70, F +34 937 909 532
info@labbox.com, www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (Technic information.Office hours.) Servicio de Información Toxicológica (Instituto Nacional de Toxicología y Ciencias Forenses) Teléfono: +34 91 5620420.Información en español (24h/365 días). Únicamente con la finalidad de proporcionar respuesta sanitaria en caso de urgencia (ONLY IN CASE OF EMERGENCY)"

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Corrosive to metals, Category 1	H290
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318

Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger

Hazard statements (CLP)	:	H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage.
Precautionary statements (CLP)	:	P234 - Keep only in original packaging. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

2.3. Other hazards

PBT: not relevant – no registration required
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) 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

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium hydroxide micropearls	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6 REACH-no: 01-2119457892-27	2 – 5	Met. Corr. 1, H290 Skin Corr. 1A, H314
Potassium sodium tartrate tetrahydrate	CAS-No.: 6381-59-5 EC-No.: 206-156-8		Not classified

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits (%)**
Sodium hydroxide micropearls	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6 REACH-no: 01-2119457892-27	(0,5 ≤ C < 2) Eye Irrit. 2; H319 (0,5 ≤ C < 2) Skin Irrit. 2; H315 (2 ≤ C < 5) Skin Corr. 1B; H314 (5 ≤ C < 100) Skin Corr. 1A; H314

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	:	Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	:	Gently wash with plenty of soap and 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 : Rinse mouth. Do not induce vomiting. Go into open air and ventilate suspected area. Get medical advice/attention.

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

Symptoms/effects after skin contact : Causes severe burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : May cause irritation to the digestive tract.

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Dry powder. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.
Hazardous decomposition products in case of fire : fume.

5.3. Advice for firefighters

Precautionary measures fire : Stop leak if safe to do so.
Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures : Mechanically ventilate the spillage area.

For emergency responders

Emergency procedures : Stop leak if safe to do so.

6.2. Environmental precautions

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 : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.

Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Fehling B reagent AGR	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	5 mg/m³

Sodium hydroxide micropearls (1310-73-2)	
France - Occupational Exposure Limits	
Local name	Hydroxyde de sodium
VME (OEL TWA)	2 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Greece - Occupational Exposure Limits	
Local name	Υδροξείδιο του νατρίου
OEL TWA	2 mg/m³
OEL STEL	2 mg/m³
Regulatory reference	Π.Δ. 90/1999
Portugal - Occupational Exposure Limits	
Local name	Hidróxido de sódio
OEL Ceiling	2 mg/m³
	2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Hidróxido de sodio
VLA-EC (OEL STEL)	2 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
United Kingdom - Occupational Exposure Limits	
Local name	Sodium hydroxide
WEL STEL	2 mg/m³
Regulatory reference	EH40/2005 (Third edition, 2018). HSE

DNEL and PNEC

Fehling B reagent AGR	
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	1 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	1 mg/m³

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. EN 374.
Personal protective equipment symbol(s):



Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves against chemicals (EN 374)

Respiratory protection

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.
Other information:
Do not eat, drink or smoke when using this product. The present safety data sheet is consistent with the specific conditions relied on to justify the registration of the substance in accordance with Article 17 or 18 of the REACH regulation. Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Odour	:	odourless.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available

Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	< 13
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	:	1,25 g/cm³
Relative density	:	Not available
Relative vapour density at 20 °C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

May be corrosive to metals.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Heavy metals. May react violently with combustible materials.

10.4. Conditions to avoid

Water, humidity.

10.5. Incompatible materials

Aluminium. Metals. alkali metals.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Fehling B reagent AGR	
LD50 oral rat	3000 mg/kg
LD50 dermal rat	3000 mg/kg
LC50 inhalation rat (mg/l)	4,5 mg/m³

Sodium hydroxide micropearls (1310-73-2)	
LD50 oral	325 mg/kg Rabbit

Potassium sodium tartrate tetrahydrate (6381-59-5)	
LD50 oral rat	3000 mg/kg
LD50 dermal rat	3000 mg/kg

Potassium sodium tartrate tetrahydrate (6381-59-5)	
LC50 inhalation rat (mg/l)	4,5 g/m³

Skin corrosion/irritation : Causes severe skin burns.
pH: < 13

Sodium hydroxide micropearls (1310-73-2)	
pH	> 13 (0.5%)

Potassium sodium tartrate tetrahydrate (6381-59-5)	
pH	7,5 – 8,5 5%, w/w

Serious eye damage/irritation : Causes serious eye damage.
pH: < 13

Sodium hydroxide micropearls (1310-73-2)	
pH	> 13 (0.5%)

Potassium sodium tartrate tetrahydrate (6381-59-5)	
pH	7,5 – 8,5 5%, w/w

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Sodium hydroxide micropearls (1310-73-2)	
Viscosity, kinematic	10,5 (30% - 20º)

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Fehling B reagent AGR	
LC50 - Fish [1]	45,4
EC50 - Daphnia [1]	40 mg/l

Sodium hydroxide micropearls (1310-73-2)	
EC50 - Daphnia [1]	40,4 mg/l Test organisms (species): Ceriodaphnia sp.

Potassium sodium tartrate tetrahydrate (6381-59-5)	
LC50 - Fish [1]	> 100 mg/kg
ErC50 algae	> 998 mg/l

12.2. Persistence and degradability

Fehling B reagent AGR	
Persistence and degradability	Rapidly degradable

Sodium hydroxide micropearls (1310-73-2)	
Persistence and degradability	Rapidly degradable

Potassium sodium tartrate tetrahydrate (6381-59-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Fehling B reagent AGR
PBT: not relevant – no registration required

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Not applicable.

12.7. Other adverse effects

Other adverse effects : Do not discharge into drains or rivers.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : UN 1719
UN-No. (IMDG) : UN 1719
UN-No. (IATA) : UN 1719
UN-No. (ADN) : UN 1719
UN-No. (RID) : UN 1719

14.2. UN proper shipping name

Proper Shipping Name (ADR) : CAUSTIC ALKALI LIQUID, N.O.S.
Proper Shipping Name (IMDG) : CAUSTIC ALKALI LIQUID, N.O.S.
Proper Shipping Name (IATA) : Caustic alkali liquid, n.o.s.
Proper Shipping Name (ADN) : CAUSTIC ALKALI LIQUID, N.O.S.
Proper Shipping Name (RID) : CAUSTIC ALKALI LIQUID, N.O.S.
Transport document description (ADR) (ADR) : UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Caustic alkali liquid, n.o.s.), 8, II, (E)
Transport document description (IMDG) : UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Caustic alkali liquid, n.o.s.), 8, II
Transport document description (IATA) : UN 1719 Caustic alkali liquid, n.o.s. (Caustic alkali liquid, n.o.s.), 8, II

Transport document description (ADN) : UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Caustic alkali liquid, n.o.s.), 8, II
Transport document description (RID) : UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Caustic alkali liquid, n.o.s.), 8, II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8
:



IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8
:



IATA

Transport hazard class(es) (IATA) : 8
Danger labels (IATA) : 8
:



ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8
:



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8
:



14.4. Packing group

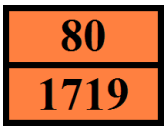
Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	C5
Special provisions (ADR)	:	274
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001, IBC02
Mixed packing provisions (ADR)	:	MP15
Portable tank and bulk container instructions (ADR)	:	T11
Portable tank and bulk container special provisions (ADR)	:	TP2, TP27
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2R

Transport by sea

Special provisions (IMDG)	:	274
Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T11
Tank special provisions (IMDG)	:	TP2, TP27
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SGG18, SG22, SG35
Properties and observations (IMDG)	:	Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y840
PCA limited quantity max net quantity (IATA)	:	0.5L
PCA packing instructions (IATA)	:	851
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	855
CAO max net quantity (IATA)	:	30L
Special provisions (IATA)	:	A3, A803
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C5
Special provisions (ADN)	:	274
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E2
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	C5
Special provisions (RID)	:	274
Limited quantities (RID)	:	1L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001, IBC02

Mixed packing provisions (RID)	:	MP15
Portable tank and bulk container instructions (RID)	:	T11
Portable tank and bulk container special provisions (RID)	:	TP2, TP27
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE6
Hazard identification number (RID)	:	80

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	**Applicable on**
3.	Fehling B reagent AGR
3(b)	Fehling B reagent AGR

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

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.

POP Regulation (Persistent Organic Pollutants)

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

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

National regulations

Germany

Water hazard class (WGK)	:	WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	None of the components are listed

SZW-lijst van mutagene stoffen	:	None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	:	None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	:	None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	:	None of the components are listed

Denmark

Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Safety Data Sheet (SDS), EU

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.