SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

RTA.GBF.538 Revizyon Tarihi/Revizyon no:01.09.2018/1 Yayın tarih: 15.01.2017

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

Catalogue No. 07002

Product name: Gram-color Stain set for the Gram staining method

Reagent 1, Crystal violet solution

Company: RTA Laboratuvarları Biyolojik Ürünler, İlaç ve Makine San. Tic. A.Ş.

GEPOSB Cumhuriyet Cad. No;3 41400 Gebze-Kocaeli-TÜRKİYE

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SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 3, H226

Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Warning

Hazard statements

H226 Flammable liquid and vapour.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210 Keep away from heat.

P273 Avoid release to the environment.

Reduced labelling (≤125 ml)

Hazard pictograms

Signal word

Warning

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature: Aqueous-ethanolic dye solution.

3.1 Substance Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)
Chemical name (Concentration)

CAS-No.	Registration number	Classification
ethanol (>= 3 % - < 10 %) Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.		
64-17-5	01-2119457610-43-XXXX	
		Flammable liquid, Category 2, H225 Eye irritation, Category 2, H319

Hexamethylpararosaniline chloride (crystal violet) (>= 0,25 % - < 1 %)

548-62-9 *)

Acute toxicity, Category 4, H302 Serious eye damage, Category 1, H318
Carcinogenicity, Category 2, H351 Acute aquatic toxicity, Category 1, H400
Chronic aquatic toxicity, Category 1, H410
M-Factor: 1

Phenol (< 1 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

108-95-2 01-2119471329-32-XXXX

Germ cell mutagenicity, Category 2, H341
Acute toxicity, Category 3, H331
Acute toxicity, Category 3, H311
Acute toxicity, Category 3, H301
Specific target organ toxicity - repeated exposure, Category 2, H373
Skin corrosion, Category 1B, H314

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed We have no description of any toxic symptoms.

4.3 Indication of any immediate medical attention and special treatment needed No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Mixture with combustible ingredients.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.
Vapours are heavier than air and may spread along floors.

5.3 Advice for firefighters

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Ensure adequate ventilation.
Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well- ventilated place.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

ethanol (64-17-5)

Worker DNEL, acute	Local effects	inhalation	1900 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	343 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	950 mg/m³
Consumer DNEL, acute	Local effects	inhalation	950 mg/m³
Consumer DNEL, longterm	Systemic effects	dermal	206 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	114 mg/m³

Consumer DNEL, longterm	Systemic effects	oral	87 mg/kg Body weight
Phenol (108-95-2)			
Worker DNEL, longterm	Systemic effects	inhalation	8 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	1,23 mg/kg Body weight

Phenol (108-95-2)

PNEC Fresh water	0,0077 mg/l
PNEC Marine water	0,00077 mg/l
PNEC Fresh water sediment	0,0915 mg/kg
PNEC Marine sediment	0,00915 mg/kg
PNEC Soil	0,136 mg/kg
PNEC Sewage treatment plant	2,1 mg/l

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection
full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
Flame retardant antistatic protective clothing.

Respiratory protection
Not required; except in case of aerosol formation.

required when vapours/aerosols are generated.

Environmental exposure controls
Do not let product enter drains.
Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	blue
Odour	phenol-like
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	47 °C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.

Density	0,99 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials no information available

10.6 Hazardous decomposition products no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity
Acute toxicity estimate: > 2.000 mg/kg
Calculation method

Acute inhalation toxicity
Acute toxicity estimate: > 20 mg/l; 4 h ; vapour
Calculation method

Acute dermal toxicity
absorption
Acute toxicity estimate : > 2.000 mg/kg
Calculation method

Skin irritation
This information is not available.

Eye irritation
This information is not available.

Sensitisation
This information is not available.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information

Applicable to the toxicologically determinant component:
Long-term feeding studies in rats and mice revealed an increased incidence of tumours in different target organs.
The results of the long-term studies available suggest that exposure to crystal violet/gentian violet may lead to irreversible damage. The positive in-vitro genetic toxicity findings also point in a negative direction. However, the data available do not suffice to classify the dye as carcinogenic in humans.

However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

Handle in accordance with good industrial hygiene and safety practice.

Components

ethanol

Acute oral toxicity
LD50 Rat: 10.470 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity
LC50 Rat: 124,7 mg/l; 4 h; vapour
OECD Test Guideline 403

Skin irritation
Rabbit
Result: No skin irritation
OECD Test Guideline 404

Eye irritation
Rabbit
Result: Eye irritation OECD
Test Guideline 405

Sensitisation
Sensitisation test (Magnusson and Kligman):
Result: negative (IUCLID)

Germ cell mutagenicity
Genotoxicity in vitro Ames
test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 476

Reproductive toxicity
Application Route: Oral
Mouse
Method: OECD Test Guideline 416

Hexamethylpararosaniline chloride (crystal violet)

Acute oral toxicity
LD50 Rat: 420 mg/kg (RTECS)

Phenol

Acute dermal toxicity LD50
Rat: 660 mg/kg OECD Test
Guideline 402

Skin irritation
In vitro study
Result: Causes burns.
OECD Test Guideline 431

Eye irritation
Rabbit
Result: Corrosive
OECD Test Guideline 405

Sensitisation
Sensitisation test: Guinea pig
Result: negative
(IUCLID)

Germ cell mutagenicity Genotoxicity
in vitro
Mutagenicity (mammal cell test): chromosome aberration. Result:
positive
Method: OECD Test Guideline 473

Mutagenicity (mammal cell test): micronucleus. Result:
positive
Method: OECD Test Guideline 487

SECTION 12. Ecological information Mixture

12.1 Toxicity
No information available.

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Discharge into the environment must be avoided.

Components
ethanol

Toxicity to fish
LC50 Leuciscus idus (Golden orfe): 8.140 mg/l; 48 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates
EC5 E.sulcatum: 65 mg/l; 72 h (Lit.)

EC50 Daphnia magna (Water flea): 9.268 - 14.221 mg/l; 48 h (IUCLID)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 5.000 mg/l; 7 d (Lit.)

Toxicity to bacteria
EC5 Pseudomonas putida: 6.500 mg/l; 16 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC Daphnia magna (Water flea): 9,6 mg/l; 9 d (ECHA)

Biodegradability
94 %
OECD Test Guideline 301E
Readily biodegradable

Biochemical Oxygen Demand (BOD)
930 - 1.670 mg/g (5 d)
(Lit.)

Theoretical oxygen demand (ThOD)
2.100 mg/g (Lit.)

Ratio COD/ThBOD
90 %
(Lit.)

Partition coefficient: n-octanol/water
log Pow: -0,31 (experimental)
(Lit.) Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Hexamethylpararosaniline chloride (crystal violet)

Toxicity to fish
LC50 S.gairdnerii: 0,7 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 Daphnia magna (Waterflea): >0,24 - <0,5 mg/l; 48 h OECD Test Guideline 202

Toxicity to algae
EC50 Pseudokirchneriella subcapitata (green algae): 0,42 mg/l; 72 h OECD Test Guideline 201

Toxicity to bacteria
EC50 Bacteria: 10 - 100 mg/l (External MSDS)

Biodegradability
3,6 %; 28 d; aerobic
OECD Test Guideline 301F
Not readily biodegradable.

Partition coefficient: n-octanol/water
log Pow: 1,172 (25 °C)
OECD Test Guideline 107
Bioaccumulation is not expected.

M-Factor
1

Phenol

Toxicity to fish
LC50 Oncorhynchus mykiss (rainbow trout): 5,0 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 Ceriodaphnia dubia (water flea): 3,1 mg/l; 48 h US-EPA

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 7,5 mg/l; 8 d (IUCLID) (maximum permissible toxic concentration)

static test EC50 Pseudokirchneriella subcapitata (algae): 61,1 mg/l; 96 h US-EPA

Toxicity to bacteria
EC50 activated sludge: 766 mg/l; 3 h
OECD Test Guideline 209

Toxicity to fish (Chronic toxicity)
semi-static test NOEC Poecilia reticulata (guppy): 4 mg/l; 14 d OECD

Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test EC10 Daphnia magna (Water flea): 0,46 mg/l; 16 d (ECHA)

Biodegradability
100 %; 6 d
OECD Test Guideline 302B
Easily eliminable.

85 %; 14 d
OECD Test Guideline 301C
Readily biodegradable

Biochemical Oxygen Demand (BOD)
1.680 mg/g (5 d)
(IUCLID)

Chemical Oxygen Demand (COD)
2.300 mg/g
(IUCLID)

Partition coefficient: n-octanol/water
log Pow: 1,47 (30 °C)
(ECHA) Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Surface tension
71,3 mN/m
at 20 °C

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information Land transport (ADR/RID)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN) Not relevant

Air transport (IATA)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Flammable. 6 Quantity 1: 5.000 t Quantity 2: 50.000 t SEVESO III FLAMMABLE LIQUIDS P5c Quantity 1: 5.000 t Quantity 2: 50.000 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).

National legislation

Storage class	3

The data applies to the entire pack.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

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

1.1 Product identifier

Catalogue No. 07001

Product name: Gram-color Stain set for the Gram staining method

Reagent 2, Lugol solution

Company: RTA Laboratuvarları Biyolojik Ürünler, İlaç ve Makine San. Tic. A.Ş.

GEPOSB Cumhuriyet Cad. No;3 41400 Gebze-Kocaeli-TÜRKİYE

Emergency telephone number: *(+ 90) 262 648 53 00*

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Email: *rta@rtalabs.com.tr*

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Reduced labelling (≤125 ml)

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

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution of inorganic and organic compounds.

3.1 Substance Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)
CAS-No. Registration number Classification
homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine (>=3% - <10%)
25655-41-8 *)
Eye irritation, Category 2, H319
Chronic aquatic toxicity, Category 2, H411

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

4.3 Indication of any immediate medical attention and special treatment needed No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H^+ , Merck Art. No. 101595).
Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Observe label precautions.

Hygiene measures
Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well- ventilated place.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See

section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Respiratory protection
Not required; except in case of aerosol formation.

Environmental exposure controls Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	brown
Odour	odourless
Odour Threshold	Not applicable
pH	2,0 at 20 - 22 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	1,02 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	soluble

Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Stabilizer
homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water., Reducing agents, Metals

10.4 Conditions to avoid no information available

10.5 Incompatible materials no information available

10.6 Hazardous decomposition products no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity
This information is not available.

Acute inhalation toxicity
This information is not available.

Acute dermal toxicity
This information is not available.

Skin irritation
Possible damages: slight irritation

Eye irritation
Possible damages: slight irritation

Sensitisation
Sensitisation possible in predisposed persons.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information

However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

Components

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

Acute dermal toxicity
LD50 Dermal Rat: > 2.500 mg/kg (External MSDS)

Skin irritation
Rabbit
Result: Irritating to skin.
OECD Test Guideline 404
(External MSDS)

Eye irritation
Rabbit
Result: Eye irritation OECD
Test Guideline 405
(External MSDS)
Causes serious eye damage.

SECTION 12. Ecological information Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

Toxicity to fish
static test LC50 Leuciscus idus (Golden orfe): 4,6 - 10 mg/l; 96 h DIN 38412 (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 Daphnia magna (Water flea): 2,79 mg/l; 48 h OECD Test Guideline 202 (External MSDS)

Toxicity to algae
static test EC50 Desmodesmus subspicatus (green algae): 4,91 mg/l; 72 h OECD Test Guideline 201 (External MSDS)

Toxicity to bacteria
EC50 Pseudomonas putida: 380 mg/l; 17 h DIN 38412 (External MSDS)

EC10 Pseudomonas putida: 270 mg/l; 17 h DIN 38412 (External MSDS)

Biodegradability
< 20 %
(External MSDS)
Not readily eliminated from water.

Partition coefficient: n-octanol/water
log Pow: 0,81

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information Land transport (ADR/RID)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN) Not relevant

Air transport (IATA)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard	96/82/EC
Legislation	Directive 96/82/EC does not apply SEVESO III Not applicable
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).

National legislation

Storage class	3

The data applies to the entire pack.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Key or legend to abbreviations and acronyms used in the safety data sheet Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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

1.1 Product identifier

Catalogue No. 07001

Product name: Gram-color Stain set for the Gram staining method

Reagent 3, Decolorization solution

Company: *RTA Laboratuvarları Biyolojik Ürünler, İlaç ve Makine San. Tic. A.Ş.*

GEPOSB Cumhuriyet Cad. No;3 41400 Gebze-Kocaeli-TÜRKİYE

Emergency telephone number: *(+ 90) 262 648 53 00*

Fax: *(+90) 262 751 06 77*

Email: *rta@rtalabs.com.tr*

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 2, H225

Eye irritation, Category 2, H319

Specific target organ toxicity - single exposure, Category 3, Central nervous system, H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour. H319

Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

Prevention

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

P240 Ground/bond container and receiving equipment. Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Reduced labelling (≤125 ml)

Hazard pictograms

Signal word

Danger

Precautionary statements

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

Contains: acetone

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Mixture of solvents.

3.1 Substance Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
ethanol (>= 50 % - <= 100 %)		
Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.		
64-17-5	01-2119457610-43-XXXX	Flammable liquid, Category 2, H225 Eye irritation, Category 2, H319
acetone (>= 20 % - < 25 %)		
Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.		
67-64-1	01-2119471330-49-XXXX	Flammable liquid, Category 2, H225 Eye irritation, Category 2, H319 Specific target organ toxicity - single exposure, Category 3, H336

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

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
irritant effects, Dermatitis, Drowsiness, somnolence, narcosis
Drying-out effect resulting in rough and chapped skin.
The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.
The following applies to ketones in general: when vapours/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Foam, Carbon dioxide (CO2), Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Combustible.
Pay attention to flashback.
Forms explosive mixtures with air at ambient temperatures.
Vapours are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well- ventilated place.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

ethanol (64-17-5)

Worker DNEL, acute	Local effects	inhalation	1900 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	343 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	950 mg/m³
Consumer DNEL, acute	Local effects	inhalation	950 mg/m³
Consumer DNEL, longterm	Systemic effects	dermal	206 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	114 mg/m³

Consumer DNEL, longterm	Systemic effects	oral	87 mg/kg Body weight

acetone (67-64-1)

Worker DNEL, acute	Local effects	inhalation	2420 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	186 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	1210 mg/m³
Consumer DNEL, longterm	Systemic effects	dermal	62 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	200 mg/m³
Consumer DNEL, longterm	Systemic effects	oral	62 mg/kg Body weight

Predicted No Effect Concentration (PNEC)

acetone (67-64-1)

PNEC Fresh water	10,6 mg/l
PNEC Marine water	1,06 mg/l
PNEC Fresh water sediment	30,4 mg/kg
PNEC Marine sediment	3,04 mg/kg
PNEC Soil	29,5 mg/kg
PNEC Sewage treatment plant	100 mg/l

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	natural latex
Glove thickness:	0,6 mm
Break through time:	> 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 706 Lapren® (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
Flame retardant antistatic protective clothing.

Respiratory protection
required when vapours/aerosols are generated.
Recommended Filter type: Filter AX (EN 371)
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls Do not let product enter drains. Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	of solvents
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	-10 °C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.

Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	0,79 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	> 425 °C

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide, silver, potassium permanganate, silver compounds, Ammonia, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapours with:

halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum

10.4 Conditions to avoid
Warming.

10.5 Incompatible materials
rubber, various plastics

10.6 Hazardous decomposition products no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity
Symptoms: Possible damages:, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity
This information is not available.

Skin irritation
This information is not available.

Eye irritation
Mixture causes serious eye irritation.

Sensitisation
This information is not available.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
Mixture may cause drowsiness or dizziness.Target Organs: Central nervous system

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information

The following applies to ketones in general: when vapours/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high
doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract.

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.
Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

ethanol

Acute oral toxicity
LD50 Rat: 10.470 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity
LC50 Rat: 124,7 mg/l; 4 h; vapour
OECD Test Guideline 403

Skin irritation
Rabbit
Result: No skin irritation
OECD Test Guideline 404

Eye irritation
Rabbit
Result: Eye irritation OECD
Test Guideline 405

Sensitisation
Sensitisation test (Magnusson and Kligman):
Result: negative (IUCLID)

Germ cell mutagenicity
Genotoxicity in vitro Ames
test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 476

Reproductive toxicity
Application Route: Oral
Mouse
Method: OECD Test Guideline 416

acetone

Acute oral toxicity
LD50 Rat: 5.800 mg/kg (ECHA)

Acute inhalation toxicity
LC50 Rat: 76 mg/l; 4 h ; vapour (Lit.)

Acute dermal toxicity
LD50 Rabbit: 20.000 mg/kg (IUCLID)

Skin irritation
Rabbit
Result: No irritation (External MSDS)

Eye irritation
Rabbit
Result: Eye irritation (External MSDS)

Sensitisation
Maximisation Test Guinea pig
Result: negative
(ECHA)

Germ cell mutagenicity
Genotoxicity in vivo
Micronucleus test Result: negative
(National Toxicology Program)

Genotoxicity in vitro
Mutagenicity (mammal cell test): chromosome aberration. Result: negative
Method: OECD Test Guideline 473

Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

Carcinogenicity
Did not show carcinogenic effects in animal experiments. (IUCLID)

SECTION 12. Ecological information Mixture

12.1 Toxicity
No information available.

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Discharge into the environment must be avoided.

Components

ethanol

Toxicity to fish
LC50 Leuciscus idus (Golden orfe): 8.140 mg/l; 48 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates
EC5 E.sulcatum: 65 mg/l; 72 h (Lit.)

EC50 Daphnia magna (Water flea): 9.268 - 14.221 mg/l; 48 h (IUCLID)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 5.000 mg/l; 7 d (Lit.)

Toxicity to bacteria
EC5 Pseudomonas putida: 6.500 mg/l; 16 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC Daphnia magna (Water flea): 9,6 mg/l; 9 d (ECHA)

Biodegradability
94 %
OECD Test Guideline 301E
Readily biodegradable

Biochemical Oxygen Demand (BOD)
930 - 1.670 mg/g (5 d)
(Lit.)

Theoretical oxygen demand (ThOD)
2.100 mg/g (Lit.)

Ratio COD/ThBOD
90 %
(Lit.)

Partition coefficient: n-octanol/water
log Pow: -0,31 (experimental)
(Lit.) Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

acetone

Toxicity to fish
LC50 Oncorhynchus mykiss (rainbow trout): 5.540 mg/l; 96 h (Lit.)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): 6.100 mg/l; 48 h (Lit.)

EC5 E.sulcatum: 28 mg/l; 72 h (maximum permissible toxic concentration) (Lit.)

Toxicity to algae
NOEC M.aeruginosa: 530 mg/l; 8 d
Analytical monitoring: no
DIN 38412 (maximum permissible toxic concentration) (IUCLID)

Toxicity to bacteria
EC50 activated sludge: 59 - 67,4 mg/l; 30 min (Lit.)

EC5 Pseudomonas putida: 1.700 mg/l; 16 h (maximum permissible toxic concentration) (IUCLID)

Biodegradability
91 %; 28 d
(IUCLID)
Readily biodegradable

Biochemical Oxygen Demand (BOD)
1.850 mg/g (5 d)
(IUCLID)

Chemical Oxygen Demand (COD)
2.070 mg/g
(IUCLID)

Theoretical oxygen demand (ThOD)
2.200 mg/g (Lit.)

Partition coefficient: n-octanol/water
log Pow: -0,24 (experimental)
Bioaccumulation is not expected. (Lit.)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information Land transport (ADR/RID)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN) Not relevant

Air transport (IATA)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Highly flammable 7b Quantity 1: 5.000 t Quantity 2: 50.000 t SEVESO III FLAMMABLE LIQUIDS P5c Quantity 1: 5.000 t Quantity 2: 50.000 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated

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

National legislation
Storage class 3
The data applies to the entire pack.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms

Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour. H319
Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P240

Ground/bond container and receiving equipment.

Response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Contains: acetone

Key or legend to abbreviations and acronyms used in the safety data sheet Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

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

1.1 Product identifier

Catalogue No. 07001

Product name: Gram-color Stain set for the Gram staining method

Reagent 4, Fuchsin solution

Company: *RTA Laboratuvarları Biyolojik Ürünler, İlaç ve Makine San. Tic. A.Ş.*
GEPOSB Cumhuriyet Cad. No;3 41400 Gebze-Kocaeli-TÜRKİYE
Emergency telephone number: *(+ 90) 262 648 53 00*
Fax: *(+90) 262 751 06 77*
Email:*rta@rtalabs.com.tr*

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 3, H226

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Warning

Hazard statements
H226 Flammable liquid and vapour.

Precautionary statements
Prevention
P210 Keep away from heat.

Reduced labelling (≤125 ml)

Hazard pictograms

Signal word
Warning

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous-ethanolic dye solution.

3.1 Substance Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
ethanol (>= 3 % - < 10 %)		
Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.		
64-17-5	01-2119457610-43-XXXX	Flammable liquid, Category 2, H225 Eye irritation, Category 2, H319

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

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

4.3 Indication of any immediate medical attention and special treatment needed No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam, Carbon dioxide (CO2), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well- ventilated place.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

ethanol (64-17-5)

Worker DNEL, acute	Local effects	inhalation	1900 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	343 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	950 mg/m³
Consumer DNEL, acute	Local effects	inhalation	950 mg/m³
Consumer DNEL, longterm	Systemic effects	dermal	206 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	114 mg/m³

Consumer DNEL, longterm	Systemic effects	oral	87 mg/kg Body weight

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
Flame retardant antistatic protective clothing.

Respiratory protection
not required

Environmental exposure controls Do not let product enter drains. Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	red
Odour	ethanolic
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	49 °C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	0,98 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

rubber, various plastics

10.6 Hazardous decomposition products no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity
Symptoms: Nausea, Vomiting

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity
This information is not available.

Skin irritation
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation
Causes serious eye irritation.

Sensitisation
This information is not available.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information

Systemic effects:
euphoria
After absorption:
Dizziness, inebriation, narcosis, respiratory paralysis
Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).
Handle in accordance with good industrial hygiene and safety practice.

Components

ethanol

Acute oral toxicity
LD50 Rat: 10.470 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity
LC50 Rat: 124,7 mg/l; 4 h; vapour
OECD Test Guideline 403

Skin irritation
Rabbit
Result: No skin irritation
OECD Test Guideline 404

Eye irritation
Rabbit
Result: Eye irritation OECD Test Guideline 405

Sensitisation
Sensitisation test (Magnusson and Kligman):
Result: negative (IUCLID)

Germ cell mutagenicity
Genotoxicity in vitro Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 476

Reproductive toxicity
Application Route: Oral
Mouse
Method: OECD Test Guideline 416

SECTION 12. Ecological information Mixture

12.1 Toxicity
No information available.

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Discharge into the environment must be avoided.

Components
ethanol

Toxicity to fish
LC50 Leuciscus idus (Golden orfe): 8.140 mg/l; 48 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates
EC5 E.sulcatum: 65 mg/l; 72 h (Lit.)

EC50 Daphnia magna (Water flea): 9.268 - 14.221 mg/l; 48 h (IUCLID)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 5.000 mg/l; 7 d (Lit.)

Toxicity to bacteria
EC5 Pseudomonas putida: 6.500 mg/l; 16 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC Daphnia magna (Water flea): 9,6 mg/l; 9 d (ECHA)

Biodegradability
94 %
OECD Test Guideline 301E
Readily biodegradable

Biochemical Oxygen Demand (BOD)
930 - 1.670 mg/g (5 d)
(Lit.)

Theoretical oxygen demand (ThOD)
2.100 mg/g (Lit.)

Ratio COD/ThBOD
90 %
(Lit.)

Partition coefficient: n-octanol/water
log Pow: -0,31 (experimental)
(Lit.) Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information Land transport (ADR/RID)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN) Not relevant

Air transport (IATA)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL, ACETONE)
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Flammable. 6 Quantity 1: 5.000 t Quantity 2: 50.000 t SEVESO III FLAMMABLE LIQUIDS P5c Quantity 1: 5.000 t Quantity 2: 50.000 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).

National legislation

Storage class	3

The data applies to the entire pack.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms

Signal word

Warning

Hazard statements

H226 Flammable liquid and vapour.

Precautionary statements

Prevention

P210 Keep away from heat.

Key or legend to abbreviations and acronyms used in the safety data sheet Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.