

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

### 1.1 Product identifier

**Trade name:** Papanicolaou-orange solution 2a (OG 6)

**Article number:** T867

**Registration number Mixture** - Registration numbers of the components, see Chapter 3

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

#### Application of the substance / the mixture

Laboratory chemical

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

#### Manufacturer/Supplier:

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Further information obtainable from:** Department Health, Safety and Environment

### 1.4 Emergency telephone number:

Poison Centre Munich

Telefon +49/(0)89 19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

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#### Classification according to Directive 67/548/EEC or Directive 1999/45/EC

F; Highly flammable

R11: Highly flammable.

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### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

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

#### Hazard pictograms



GHS02

**Signal word** Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P233 Keep container tightly closed.

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

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**Additional information:**

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**2.3 Other hazards**

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

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

CAS: 64-17-5 EINECS: 200-578-6 Index Number: 603-002-00-5 Reg.nr.: 01-2119457610-43-XXXX	ethanol  F R11  Flam. Liq. 2, H225	50-100%
CAS: 78-93-3 EINECS: 201-159-0 Index Number: 606-002-00-3 Reg.nr.: 01-2119457290-43-XXXX	butanone  Xi R36;  F R11 R66-67  Flam. Liq. 2, H225;  Eye Irrit. 2, H319; STOT SE 3, H336	1-≤2.5%

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

## SECTION 4: First aid measures

**4.1 Description of first aid measures****General information:**

Remove any clothing soiled by the product.

**After inhalation:**

Supply fresh air.

Seek medical treatment in case of complaints.

**After skin contact:**

Rinse with water

After massive or prolonged skin contact:

Use skin protection cream for skin protection.

**After eye contact:**

To be sure rinse opened eye under running water. If there is any trouble seek medical help.

**After swallowing:**

Rinse out mouth and drink a glass of water. Do not induce vomiting.

Seek medical treatment in case of complaints.

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

Irritations

Dermatitis

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Nausea  
Vomiting  
Dizziness

**Hazards** Danger of impaired breathing.

**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:**

Use fire extinguishing methods suitable to surrounding conditions.  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:**

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

**5.2 Special hazards arising from the substance or mixture**

Can form explosive gas-air mixtures.

In the event of fire development of hazardous combustion gases or vapours possible.

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

**5.3 Advice for firefighters**

**Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

**Additional information** Vapours heavier than air. Beware of reignition.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Do not inhale vapours. Avoid contact with the eyes and skin.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Wear personal protective equipment.

Evacuate the danger area, observe emergency procedures, consult an expert.

**6.2 Environmental precautions**

Prevent seepage into sewage system, workpits and cellars.

Dilute with plenty of water.

Do not allow to enter sewers/ground water or penetrate the soil.

**6.3 Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. Rotisorb® Art.-Nr. 1710.1).

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

**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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.  
Keep receptacles tightly sealed.

#### 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:

Store in a cool location.

#### Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidising agents.

#### Further information about storage conditions:

Keep container tightly sealed.

Store receptacle in a well ventilated area.

### 7.3 Specific end use(s)

No further relevant information available.

## SECTION 8: Exposure controls/personal protection

#### Additional information about design of technical facilities:

No further data; see item 7.

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace:

##### 64-17-5 ethanol

WEL (Great Britain) | Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

##### 78-93-3 butanone

WEL (Great Britain) | Short-term value: 899 mg/m<sup>3</sup>, 300 ppm  
Long-term value: 600 mg/m<sup>3</sup>, 200 ppm  
Sk, BMGV

IOELV (EU) | Short-term value: 900 mg/m<sup>3</sup>, 300 ppm  
Long-term value: 600 mg/m<sup>3</sup>, 200 ppm

#### DNELs

##### Worker

#### Long-term exposure - systemic effects:

##### 64-17-5 ethanol

Dermal | DNEL | 343 mg/kg (worker)

Inhalative | DNEL | 950 mg/m<sup>3</sup> (worker)

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## Safety data sheet

according to 1907/2006/EC, Article 31



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**78-93-3 butanone**

Dermal | DNEL | 1161 mg/kg (worker)

Inhalative | DNEL | 600 mg/m<sup>3</sup> (worker)**Short-term exposure - systemic effects:****64-17-5 ethanol**Inhalative | DNEL | 1900 mg/m<sup>3</sup> (worker)**Consumer****Long-term exposure - systemic effects:****64-17-5 ethanol**

Oral | DNEL | 87 mg/kg (Customer)

Dermal | DNEL | 206 mg/kg (Customer)

Inhalative | DNEL | 114 mg/m<sup>3</sup> (Customer)**78-93-3 butanone**

Oral | DNEL | 31 mg/kg (Customer)

Inhalative | DNEL | 106 mg/m<sup>3</sup> (Customer)**Short-term exposure - systemic effects:****64-17-5 ethanol**

Dermal | DNEL | 950 mg/kg (Customer)

Inhalative | DNEL | 950 mg/m<sup>3</sup> (Customer)**Short-term exposure - local effects:****78-93-3 butanone**

Dermal | DNEL | 412 mg/kg (Customer)

**PNECs****64-17-5 ethanol**

PNEC	0.63 mg/kg (Soil)
	580 mg/l (Sewage treatment plant)
	0.79 mg/l (Marine water)
	3.6 mg/kg (Fresh Water sediment)
	0.96 mg/l (Fresh Water)
	2.75 mg/l (intermittent releases)

**78-93-3 butanone**

PNEC	22.5 mg/kg (Soil)
	709 mg/l (Sewage treatment plant)
	55.8 mg/l (Marine water)
	285 mg/kg (Fresh Water sediment)
	55.8 mg/l (Fresh Water)
	55.8 mg/l (intermittent releases)

**Ingredients with biological limit values:****78-93-3 butanone**

BMGV (Great Britain)	70 µmol/L
	Medium: urine
	Sampling time: post shift
	Parameter: butan-2-one

**Additional information:**

The lists valid during the making were used as basis.

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## 8.2 Exposure controls

### Personal protective equipment:

#### **General protective and hygienic measures:**

Do not eat, drink or smoke while working.  
Avoid close or long term contact with the skin.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

#### **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.

#### **Respiratory protection:**



Required when vapours/aerosols are generated. Filter A (colour code: brown).

#### **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### **Material of gloves**

Butylcaoutchouc, thickness: 0,7 mm

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**

Value for the permeation: Level  $\geq 6$

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

#### **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, thickness:  $\geq 0.3$  mm  
Value for the permeation: Level  $\geq 4$

#### **Eye protection:**



Tightly sealed goggles

#### **Body protection:**

Solvent resistant protective clothing

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

#### Appearance:

Form:	Fluid
Colour:	Orange
Odour:	Alcohol-like
Odour threshold:	No information available.

pH-value: No information available.

#### Change in condition

Melting point/Melting range:	No information available.
Boiling point/Boiling range:	80 °C

Flash point: 17 °C

Flammability (solid, gaseous): No information available

Ignition temperature: 425 °C

Decomposition temperature: No information available

Self-igniting: Product is not self-igniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

#### Explosion limits:

Lower:	3.5 Vol %
Upper:	15.0 Vol %
Oxidizing properties:	No information available.

Vapour pressure at 20 °C: 59 hPa

Density at 20 °C:	0.85 g/cm <sup>3</sup>
Relative density	No Information available.
Vapour density	No information available
Evaporation rate	No information available

Solubility in / Miscibility with water: Fully miscible.

Partition coefficient (n-octanol/water): No information available

#### Viscosity:

Dynamic:	No information available.
Kinematic:	No information available.

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Fumes can combine with air to form an explosive mixture.

### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

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**10.3 Possibility of hazardous reactions**Strong reaction possible with:

Alkali metals  
Anhydrides  
Alkaline earth metals  
halogen oxides  
metallic oxides  
nitrates  
Peroxides  
perchlorates  
perchloric acid  
Strong oxidizing agents  
Nitric acid

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

halogen-halogen compounds  
chromium(VI) oxide  
hydrides  
Oxides of phosphorus

**10.4 Conditions to avoid**

Heat, flammes and sparks

**10.5 Incompatible materials:**

Gum  
various plastics

**10.6 Hazardous decomposition products:**

In case of fire: see item 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:**

<b>64-17-5 ethanol</b>		
Oral	LD <sub>50</sub>	7060 mg/kg (rat) (TOXNET)
Inhalative	LC <sub>50</sub> /4 h	95.6 mg/l (rat) (IUCLID)
<b>78-93-3 butanone</b>		
Oral	LD <sub>50</sub>	2740 mg/kg (rat) (TOXNET)
Dermal	LD <sub>50</sub>	6480 mg/kg (rabbit) (TOXNET)

**Specific symptoms in biological assay:**

No information available.

**Primary irritant effect:****on the skin:**

Repeated skin contact may cause dermatitis.

**on the eye:**

Slight irritations

**after inhalation:**

Risk of absorption when vapours/aerosols are generated.

**Sensitisation:**

No sensitising effects known.

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**CMR effects:****Germ cell mutagenicity:**

No Information available.

**Carcinogenicity:**

No Information available.

**Reproductive toxicity:**

No Information available.

**Aspiration hazard:**

No information available.

**Specific target organ toxicity - single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Specific target organ toxicity - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Additional toxicological information:**After swallowing:

Nausea

Vomiting

Liver damage

After absorption:

CNS-disorders

Dizziness

Dizziness

Blood pressure drop

Narcosis

cardiovascular failure

**Further information:**

The product should be handled with the care usual when dealing with chemicals.

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

Quantitative data on the ecological effect of this product are not available.

**Fish toxicity:****64-17-5 ethanol**LC<sub>50</sub> | 8140 mg/l/96 h (Leuciscus idus) (IUCLID)**78-93-3 butanone**LC<sub>50</sub> | 2990 mg/l/96 h (Pimephales promelas) (OECD-203)**Daphnia toxicity:****64-17-5 ethanol**

EC50 | &gt;9000 - &lt;15000 mg/l/48 h (Daphnia magna) (IUCLID)

**78-93-3 butanone**

EC50 | 308 mg/l/48 h (Daphnia magna) (OECD-202)

**Algal toxicity:****64-17-5 ethanol**

IC5 | 5000 mg/l (Scenedesmus quadricauda) (Lit.)

**78-93-3 butanone**

IC50 | 1972 mg/l/72 h (Pseudokirchneriella subcapitata) (OECD-201)

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<b>Bacterial toxicity:</b>	
<b>64-17-5 ethanol</b>	
EC5	6500 mg/l (Pseudomonas putida) (IUCLID) 16h
<b>78-93-3 butanone</b>	
EC5	1150 mg/l (Pseudomonas putida) (16h IUCLID)

**12.2 Persistence and degradability**

Easily biodegradable

**12.3 Bioaccumulative potential**

No Information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicological effects:****Remark:**

Do not allow to enter waters, waste water, or soil!

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

**SECTION 13: Disposal considerations**

**Waste treatment methods****Recommendation**

This material and its container must be disposed of as hazardous waste.

The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

**Uncleaned packaging:****Recommendation:**

Disposal according to official regulations.

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.


**SECTION 14: Transport information**

<b>14.1 UN-Number</b>	
ADR, IMDG, IATA	UN1170
<b>14.2 UN proper shipping name</b>	
ADR	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
IMDG	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
IATA	ETHANOL SOLUTION

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<b>14.3 Transport hazard class(es)</b>	
ADR, IMDG, IATA	
	
Class	3 Flammable liquids.
Label	3
<b>14.4 Packing group</b>	
ADR, IMDG, IATA	II
<b>14.5 Environmental hazards:</b>	
Marine pollutant:	No
<b>14.6 Special precautions for user</b>	
Danger code (Kemler):	Warning: Flammable liquids. 33
EMS Number:	F-E,S-E
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
	Not applicable.
<b>Transport/Additional information:</b>	
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<b>ADR</b>	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	D/E
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<b>IMDG</b>	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>UN "Model Regulation":</b>	UN1170, ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

## SECTION 15: Regulatory information

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

#### National regulations:

**Information about limitation of use:** Employment restrictions concerning juveniles must be observed.

#### Breakdown regulations:

#### Waterhazard class:

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

### 15.2 Chemical safety assessment

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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

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

R11 Highly flammable.

R36 Irritating to eyes.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

**Department issuing MSDS:** Department: Health, Safety and Environment

**Contact:** Herr Heine

#### 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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord européen sur le transport 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

LD50\*: Lethal Dose, 50 percent (Not relevant for classification)

LD50\*: Lethal Concentration, 50 percent (Not relevant for classification)

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

\* **Data compared to the previous version altered.**