

according to Regulation (EC) No 1907/2006

## Bromine solution according to Kaufmann 0,1 mol Br2/I - 0,2 N solution in methanol

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

#### 1.1. Product identifier

Bromine solution according to Kaufmann 0,1 mol Br2/I - 0,2 N solution in methanol

UFI: 71KG-P0YE-H007-CQX5

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

#### Use of the substance/mixture

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

#### Uses advised against

Do not use for private purposes (household).

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

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6
Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

<u>number:</u> Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

accepted)

### **Further Information**

This product is a mixture. REACH Registration Number see section 3.

# **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

### Regulation (EC) No 1272/2008

Flam. Liq. 2; H225 Acute Tox. 2; H330 Acute Tox. 3; H311 Acute Tox. 3; H301 Skin Irrit. 2; H315 Eye Irrit. 2; H319

STOT SE 1; H370 Aquatic Acute 1; H400

Full text of hazard statements: see SECTION 16.

## 2.2. Label elements

### Regulation (EC) No 1272/2008

## Hazard components for labelling

methanol bromine

Signal word: Danger



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### Pictograms:









## **Hazard statements**

H225 Highly flammable liquid and vapour.
H301+H311 Toxic if swallowed or in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H370 Causes damage to organs (eyes).

H400 Very toxic to aquatic life.

### **Precautionary statements**

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

smokina.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves and eye protection/face protection.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

P403+P235 Store in a well-ventilated place. Keep cool.

### 2.3. Other hazards

No data available

## **SECTION 3: Composition/information on ingredients**

## 3.2. Mixtures

### Relevant ingredients

CAS No	Chemical name			Quantity	
	EC No	Index No	REACH No		
	Classification (Regula	tion (EC) No 1272/2008)			
67-56-1	methanol			80 - < 85 %	
	200-659-6	603-001-00-X	01-2119433307-44		
	Flam. Liq. 2, Acute To	x. 3, Acute Tox. 3, Acute Tox. 3, STOT	SE 1; H225 H331 H311 H301 H370		
7726-95-6	bromine			1 - < 5 %	
	231-778-1	035-001-00-5	01-2119461714-37		
	Acute Tox. 1, Skin Corr. 1A, Aquatic Acute 1; H330 H314 H400				

Full text of H and EUH statements: see section 16.

### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
67-56-1	200-659-6	200-659-6 methanol	
	inhalation: LC50 = 128,2 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: LD50 = 6000 mg/kg STOT SE 1; H370: >= 10 - 100 STOT SE 2; H371: >= 3 - < 10		
7726-95-6	231-778-1	231-778-1 bromine	
	inhalation: ATE = 0,05 mg/l (vapours); inhalation: ATE = 0,005 mg/l (dusts or mists) Aquatic Acute 1; H400: M=100		



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#### **Further Information**

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).

### **SECTION 4: First aid measures**

### 4.1. Description of first aid measures

#### **General information**

First aider: Pay attention to self-protection!

Remove affected person from the danger area and lay down.

#### After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

Call a physician immediately.

### After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

#### After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

### After ingestion

Provide fresh air.

Call a physician immediately.

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

Irritant, Dizziness, Dizziness, Anaesthetic state, Agitation, Spasms, Inebriation, Vomiting, Headache,

Impairment of vision

Repeated exposure may cause skin dryness or cracking.

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

No data available

### **SECTION 5: Firefighting measures**

## 5.1. Extinguishing media

### Suitable extinguishing media

Water spray jet, Carbon dioxide (CO2), Foam, Extinguishing powder.

#### Unsuitable extinguishing media

no restriction

### 5.2. Special hazards arising from the substance or mixture

Combustible liquids

Highly flammable.

Hazardous combustion products

In case of fire may be liberated:

Carbon dioxide, Carbon monoxide

**Bromine** 

Hydrogen bromide (HBr)

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Beware of reignition.

Heating causes rise in pressure with risk of bursting.



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### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Wear full chemical protective clothing.

In case of fire and/or explosion do not breathe fumes.

#### Additional information

Use water spray jet to protect personnel and to cool endangered containers.

Move undamaged containers from immediate hazard area if it can be done safely.

Suppress gases/vapours/mists with water spray jet.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

#### General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

**Emergency procedures** 

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

### For emergency responders

Precautionary statements For emergency responders: Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

# 6.3. Methods and material for containment and cleaning up

## For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

# For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

### Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13



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### **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

### Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Vapours can form explosive mixtures with air.

### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## Hints on joint storage

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances. national regulations

### Further information on storage conditions

Keep cool. Protect from sunlight.

## 7.3. Specific end use(s)

Laboratory chemicals

## **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

## Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7726-95-6	Bromine	0.1	0.7		TWA (8 h)	
67-56-1	Methyl alcohol	200	260		TWA (8 h)	

## **Biological limit values**

CAS No	Substance	Parameter	Value	Test material	Sampling time
67-56-1	Methanol	Methanol	15 mg/L	Urine	End of shift



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## **DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
67-56-1	methanol			
Consumer DN	EL, acute	inhalation	systemic	50 mg/m³
Worker DNEL,	long-term	inhalation	systemic	260 mg/m³
Worker DNEL,	acute	inhalation	systemic	260 mg/m³
Worker DNEL,	long-term	inhalation	local	260 mg/m³
Worker DNEL,	acute	inhalation	local	260 mg/m³
Worker DNEL,	long-term	dermal	systemic	40 mg/kg bw/day
Worker DNEL,	acute	dermal	systemic	40 mg/kg bw/day
Consumer DN	EL, long-term	inhalation	systemic	50 mg/m³
Consumer DN	EL, long-term	inhalation	local	50 mg/m³
Consumer DN	EL, acute	inhalation	local	50 mg/m³
Consumer DN	EL, long-term	dermal	systemic	8 mg/kg bw/day
Consumer DN	EL, acute	dermal	systemic	8 mg/kg bw/day
Consumer DN	EL, long-term	oral	systemic	8 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	8 mg/kg bw/day
7726-95-6	bromine			
Worker DNEL,	long-term	inhalation	systemic	0,7 mg/m³
Worker DNEL,	Worker DNEL, acute		systemic	0,7 mg/m³
Worker DNEL,	long-term	inhalation	local	0,7 mg/m³
Worker DNEL,	acute	inhalation	local	0,7 mg/m³

## **PNEC** values

CAS No	Substance	
Environmen	tal compartment	Value
67-56-1	methanol	
Freshwater		20,8 mg/l
Freshwater	(intermittent releases)	1540 mg/l
Marine water	г	2,08 mg/l
Freshwater	sediment	77 mg/kg
Marine sedi	ment	7,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		100 mg/kg
7726-95-6	bromine	
Freshwater		0,001 mg/l
Marine wate	r	0,001 mg/l

## 8.2. Exposure controls

# Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe gas/fumes/vapour/spray.



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#### Individual protection measures, such as personal protective equipment

#### Eye/face protection

goggles

#### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact: No data available

By short-term hand contact

Trade name/designation KCL 890 Vitoject® Suitable material: FKM (fluoro rubber) 0,7 mm

Wearing time with occasional contact (splashes): > 60 min

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).

#### Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Take off immediately all contaminated clothing and wash it before reuse.

Wear fire resistant or flame retardant clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

## **Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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 allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Danger of explosion

### **SECTION 9: Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

Physical state:

Colour:

Odour:

Odour:

Odour threshold:

Liquid
brown
like: Methanol
No data available

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Flammability: not applicable



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No data available

Lower explosion limits:No data availableUpper explosion limits:No data availableFlash point:17 °CAuto-ignition temperature:No data availableDecomposition temperature:not determinedpH-Value:1Viscosity / kinematic:not determined

Solubility in other solvents

not determined

Water solubility:

No data available Dissolution rate: Partition coefficient n-octanol/water: not determined No data available Dispersion stability: No data available Vapour pressure: Vapour pressure: No data available 0,927 g/cm<sup>3</sup> Density: No data available Relative density: No data available Bulk density: not determined Relative vapour density: No data available Particle characteristics:

### 9.2. Other information

### Information with regard to physical hazard classes

Explosive properties

Vapours can form explosive mixtures with air.

Sustained combustibility: Sustained combustibility

Self-ignition temperature

Solid: not applicable
Gas: not applicable

Oxidizing properties not determined

### Other safety characteristics

Evaporation rate:

Solvent separation test:

Solvent content:

Solid content:

Solid content:

Solid content:

Solid content:

Solid content:

No data available

Softening point:

No data available

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

Flow time:

No data available

not determined

### **Further Information**

not determined

## **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

Highly flammable.

Vapours can form explosive mixtures with air.

## 10.2. Chemical stability



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The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Oxidising agent

Risk of explosion with: Oxidizing agents, perchloric acid, perchlorates, salts of oxyhalogenic acids, chromium(VI) oxide, halogen oxides, nitrogen oxides, nonmetallic oxides, chromosulfuric acid, chlorates, hydrides, zinc diethyl, halogens, powdered magnesium, hydrogen peroxide, Nitric acid, sulphuric acid, permanganic acid, sodium hypochlorite Exothermic reaction with: acid halides, Acid anhydrides, Reducing agents, acids, Bromine, Chlorine, Chloroform, magnesium, tetrachloromethane, CYANURIC CHLORIDE Risk of ignition or formation of inflammable gases or vapours with: Fluorine, Oxides of phosphorus, Raney-nickel Generates dangerous gases or fumes in contact with: Alkaline earth metals, Alkali metals

### 10.4. Conditions to avoid

Vapours can form explosive mixtures with air.

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

### 10.5. Incompatible materials

various plastics

various metals, metal alloys

### 10.6. Hazardous decomposition products

**SECTION 5: Firefighting measures** 

### **Further information**

No data available

## **SECTION 11: Toxicological information**

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

#### Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

## **Acute toxicity**

Fatal if inhaled.

Toxic in contact with skin.

Toxic if swallowed.

#### **ATEmix calculated**

ATE (oral) 122,0 mg/kg; ATE (dermal) 366,0 mg/kg; ATE (inhalation vapour) 1,550 mg/l; ATE (inhalation dust/mist) 0,1870 mg/l

CAS No	Chemical name							
	Exposure route	Dose		Species	Source	Method		
67-56-1	methanol							
	oral	LD50 mg/kg	6000	Monkey	Amer J Ophthalmol 40: 76-83 (cited in DG	Determination of the acute toxicity of t		
	dermal	ATE mg/kg	300					
	inhalation (4 h) vapour	LC50 mg/l	128,2	Rat	Study report (1980)	Study performed according to internal co		
	inhalation dust/mist	ATE	0,5 mg/l					
7726-95-6	bromine							
	inhalation vapour	ATE	0,05 mg/l					
	inhalation dust/mist	ATE mg/l	0,005					

Print date: 07.09.2025



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### Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

#### Sensitising effects

Based on available data, the classification criteria are not met.

### Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

#### STOT-single exposure

Causes damage to organs. (methanol)

### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### **Aspiration hazard**

Based on available data, the classification criteria are not met.

### Information on likely routes of exposure

There are no data available on the mixture itself.

#### Specific effects in experiment on an animal

There are no data available on the mixture itself.

### Additional information on tests

There are no data available on the mixture itself.

## **Practical experience**

There are no data available on the mixture itself.

### 11.2. Information on other hazards

### **Endocrine disrupting properties**

There are no data available on the mixture itself.

### Other information

Irritation to respiratory tract

Repeated exposure may cause skin dryness or cracking.

Causes damage to organs. Organs affected:

Liver and kidney damage, , , Irreversible damage to the optic nerve.

see also Section 4

#### **Further information**

The substance has delayed effects.

Other dangerous properties cannot be excluded.

### **SECTION 12: Ecological information**

### 12.1. Toxicity

Very toxic to aquatic life.

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CAS No	Chemical name							
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method	
67-56-1	methanol							
	Acute fish toxicity	LC50 mg/l	15400	96 h	Lepomis macrochirus	Bulletin of Environmental Contamination	other: EPA-660/3-75-00 9, 1975	
	Acute algae toxicity	ErC50 22000 mg/l	ca.	96 h	Pseudokirchneriella subcapitata	Ecotoxicology and Environmental Safety 7	OECD Guideline 201	
	Acute crustacea toxicity	EC50 mg/l	> 10000	48 h	Daphnia magna	Water Research 23(4): 495-499 (1989)	other: DIN 38412 Teil 11	
	Fish toxicity	NOEC mg/l	446,7	28 d	Pimephales promelas	SAR and QSAR in Environmental Research,	Calculation performed with ECOSAR	
	Crustacea toxicity	NOEC	208 mg/l	21 d	Daphnia magna	OECD QSAR Toolbox Report (2013)	Toxicity of the target chemical is predi	
7726-95-6	bromine							
	Acute crustacea toxicity	EC50 mg/l	ca. 1	48 h	Daphnia magna	Bull. Environ. Contam. Toxicol., Vol. 24	The study authors employed standard acut	

## 12.2. Persistence and degradability

There are no data available on the mixture itself.

## 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

## Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-56-1	methanol	-0,77
7726-95-6	bromine	-1,49

## **BCF**

CAS No	Chemical name	BCF	Species	Source
67-56-1	methanol	1	Cyprinus carpio	Comparative Biochemi

### 12.4. Mobility in soil

There are no data available on the mixture itself.

## 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

There are no data available on the mixture itself.

#### **Further information**

Do not allow to enter into surface water or drains.

Avoid release to the environment.

## **SECTION 13: Disposal considerations**



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### 13.1. Waste treatment methods

### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

### Contaminated packaging

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

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### **SECTION 14: Transport information**

### Land transport (ADR/RID)

**14.1. UN number or ID number:** UN 1992

14.2. UN proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol)

14.3. Transport hazard class(es): 3 П 14.4. Packing group: 3+6.1 Hazard label: Classification code: FT1 **Special Provisions:** 274 1 I Limited quantity: Excepted quantity: E2 2 Transport category: Hazard No: 336 D/E Tunnel restriction code:

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1992

14.2. UN proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol)

14.3. Transport hazard class(es):314.4. Packing group:IIHazard label:3+6.1Classification code:FT1Special Provisions:274 802Limited quantity:1 LExcepted quantity:E2

Marine transport (IMDG)

**14.1. UN number or ID number:** UN 1992

14.2. UN proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol)

 14.3. Transport hazard class(es):
 3

 14.4. Packing group:
 II

 Hazard label:
 3+6.1

 Special Provisions:
 274

 Limited quantity:
 1 L

 Excepted quantity:
 E2

 EmS:
 F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** UN 1992

14.2. UN proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol)

14.3. Transport hazard class(es): 3
14.4. Packing group:



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3+6.1 Hazard label: A3 Special Provisions: 1 L Limited quantity Passenger: Y341 Passenger LQ: Excepted quantity: F2

IATA-packing instructions - Passenger: 352 1 I IATA-max. quantity - Passenger: 364 IATA-packing instructions - Cargo: 60 L IATA-max. quantity - Cargo:

14.5. Environmental hazards

**ENVIRONMENTALLY HAZARDOUS:** Yes bromine Danger releasing substance:

14.6. Special precautions for user

Warning: Combustible liquid. Toxic.

### 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** regulatory information

Restrictions on use (REACH, annex XVII): Entry 3, Entry 40, Entry 69, Entry 75

Information according to Directive

2012/18/EU (SEVESO III):

**H2 ACUTE TOXIC** 

P5c, E1 Additional information:

**National regulatory information** 

**Employment restrictions:** Observe restrictions to employment for juveniles according to the 'juvenile

> work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or

nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

## 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

### **SECTION 16: Other information**

## Changes

This data sheet contains changes from the previous version in section(s): 1,2,6,8,9,11,12,14.



according to Regulation (EC) No 1907/2006

## Bromine solution according to Kaufmann 0,1 mol Br2/I - 0,2 N solution in methanol

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#### Abbreviations and acronyms

Flam. Liq. 2: Flammable liquids, hazard category 2 Acute Tox. 1: Acute toxicity, hazard category 1 Skin Corr. 1A: Skin corrosion, sub-category 1A Skin Irrit. 2: Skin irritation, hazard category 2 Eye Irrit. 2: Eye irritation, hazard category 2

STOT SE 1: Specific target organ toxicity - single exposure, hazard category 1 Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1 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 Harmonized 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 LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Q1 15 11	
Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Acute Tox. 2; H330	Calculation method
Acute Tox. 3; H311	Calculation method
Acute Tox. 3; H301	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
STOT SE 1; H370	Calculation method
Aquatic Acute 1; H400	Calculation method

#### Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
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H301 Toxic if swallowed.

H301+H311 Toxic if swallowed or in contact with skin.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.
H331 Toxic if inhaled.

H370 Causes damage to organs (eyes).
H370 Causes damage to organs.

H400 Very toxic to aquatic life.

## **Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.



according to Regulation (EC) No 1907/2006

# Bromine solution according to Kaufmann 0,1 mol Br2/I - 0,2 N solution in methanol

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The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)