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 identifiers
Product name: Formaldehyde solution, 36.5-38%
Product Number: F8775
Brand: Sigma
Index-No.: 605-001-00-5
REACH No.: This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone
Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318
Skin sensitization (Category 1), H317
Germ cell mutagenicity (Category 2), H341
The life science business of Merck operates as MilliporeSigma in the US and Canada.

Carcinogenicity (Category 1B), H350
Specific target organ toxicity - single exposure (Category 1), Eyes, Central nervous system, H370
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word Danger

Hazard statement(s)
H226 Flammable liquid and vapor.
H301 + H311 Toxic if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to organs (Eyes, Central nervous system).

Precautionary statement(s)
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Danger

Hazard statement(s)
H330 Fatal if inhaled.
H317 May cause an allergic skin reaction.
The life science business of Merck operates as MilliporeSigma in the US and Canada.

**H341** Suspected of causing genetic defects.

**H350** May cause cancer.

**H370** Causes damage to organs.

**H314** Causes severe skin burns and eye damage.

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

Precautionary statement(s)

**P202** Do not handle until all safety precautions have been read and understood.

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

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

**P304 + P340 + P310** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

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

Supplemental Hazard Statements

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>formaldehyde</td>
<td>Acute Tox. 3; Acute Tox. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 1B; STOT SE 3; H301, H330, H311, H314, H318, H317, H341, H350, H335</td>
<td>&gt;= 30 - &lt; 50 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>50-00-0</td>
<td></td>
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<tr>
<td>EC-No.</td>
<td>200-001-8</td>
<td></td>
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<tr>
<td>Index-No.</td>
<td>605-001-00-5</td>
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</tr>
<tr>
<td>Registration number</td>
<td>01-2119488953-20-XXXX</td>
<td></td>
</tr>
<tr>
<td>Methanol</td>
<td>Flam. Liq. 2; Acute Tox. 3;</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>67-56-1</td>
<td></td>
</tr>
</tbody>
</table>

Sigma- F8775

Sigma-Aldrich is a business of Merck KGaA, Darmstadt, Germany.
SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour). Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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 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**
- Carbon oxides
- Mixture with combustible ingredients.
- Vapors 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**
- Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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

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**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
- Advice for non-emergency personnel: Do not breathe vapors, 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. For personal protection 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 **Reference to other sections**
- For disposal see section 13.

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**SECTION 7: Handling and storage**

7.1 **Precautions for safe handling**
- **Advice on safe handling**
  - 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**
  - Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**
- **Storage conditions**
  - Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.
**Storage stability**
Recommended storage temperature
15 - 25 °C

**Storage class**
Storage class (TRGS 510): 3: Flammable liquids

7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

8.1 **Control parameters**

**Ingredients with workplace control parameters**

8.2 **Exposure controls**

**Personal protective equipment**

- **Eye/face protection**
  Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

- **Skin protection**
  Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
  The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

  **Full contact**
  Material: Nitrile rubber
  Minimum layer thickness: 0,4 mm
  Break through time: 480 min
  Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

  **Splash contact**
  Material: Nitrile rubber
  Minimum layer thickness: 0,2 mm
  Break through time: 60 min
  Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

  data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

  If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
**Body Protection**  
Flame retardant antistatic protective clothing.

**Respiratory protection**  
required when vapours/aerosols are generated.  
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.  
Recommended Filter type: Filter type ABK

The entrepreneur 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.

**Control of environmental exposure**  
Do not let product enter drains. Risk of explosion.

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**SECTION 9: Physical and chemical properties**  
9.1 **Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>a) Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Color</td>
<td>clear</td>
</tr>
<tr>
<td>c) Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>d) Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>e) Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>f) Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
| g) Upper/lower flammability or explosive limits | Upper explosion limit: 73 % (V)  
Lower explosion limit: 7 % (V) |
| h) Flash point    | 56,11 °C - closed cup |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH             | No data available |
| l) Viscosity      | Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available |
| m) Water solubility | at 20 °C soluble |
| n) Partition coefficient: n-octanol/water | No data available |
| o) Vapor pressure | 69 hPa at 37 °C     |
p) Density  
   Relative density  
   1,09 g/cm³ at 20 °C  
   1,09 at 20 °C

q) Relative vapor density  
   1,04 - (Air = 1.0)

r) Particle characteristics  
   No data available

s) Explosive properties  
   Not classified as explosive.

t) Oxidizing properties  
   none

9.2 Other safety information
   Relative vapor density  
   1,04 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
   Vapor/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
   No data available

10.4 Conditions to avoid
   Heating.

10.5 Incompatible materials
   Strong oxidizing agents

10.6 Hazardous decomposition products
   In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects
   Mixture

   Acute toxicity
   Oral: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
   Acute toxicity estimate Inhalation - 4 h - 1,24 mg/l - vapor(Calculation method)

   Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
The life science business of Merck operates as MilliporeSigma in the US and Canada.

### Acute toxicity estimate
- **Dermal**: 519.28 mg/kg (Calculation method)

### Skin corrosion/irritation
- **Skin - Rabbit**
  - Result: Corrosive after 3 minutes to 1 hour of exposure - 20 h (OECD Test Guideline 404)
  - Remarks: Mixture causes burns.

### Serious eye damage/eye irritation
- **Eyes - Rabbit**
  - Result: Corrosive - 7 d (OECD Test Guideline 405)
  - Remarks: Mixture causes serious eye damage. Risk of blindness!

### Respiratory or skin sensitization
- **Maximization Test - Guinea pig**
  - Result: Causes sensitization. May cause allergic skin reaction. (OECD Test Guideline 406)
  - Remarks: Mixture may cause an allergic skin reaction.

### Germ cell mutagenicity
- No data available

### Carcinogenicity
- No data available

### Reproductive toxicity
- No data available

### Specific target organ toxicity - single exposure
- Mixture causes damage to organs. - Eyes, Central nervous system
  - Mixture may cause respiratory irritation.

### Specific target organ toxicity - repeated exposure
- No data available

### Aspiration hazard
- No data available

### 11.2 Additional Information

#### Endocrine disrupting properties

**Product:**
- **Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded.
This substance should be handled with particular care. Handle in accordance with good industrial hygiene and safety practice.

**Components**

**formaldehyde**

**Acute toxicity**
LD50 Oral - Rat - 100 mg/kg
Remarks: (Lit.)
LC50 Inhalation - Rat - male and female - 4 h - < 0,57 mg/l - vapor (OECD Test Guideline 403)
LD50 Dermal - Rabbit - 270 mg/kg
Remarks: (RTECS)

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns. - 20 h (OECD Test Guideline 404)

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

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: positive (OECD Test Guideline 429)

**Germ cell mutagenicity**
Suspected of causing genetic defects.

**Carcinogenicity**
Presumed to have carcinogenic potential for humans

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Methanol**

**Acute toxicity**
Acute toxicity estimate Oral - 100,1 mg/kg
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: Nausea, Vomiting
Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: Irritation symptoms in the respiratory tract.
Acute toxicity estimate Dermal - 300,1 mg/kg
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation
Remarks: (ECHA)
Remarks: Drying-out effect resulting in rough and chapped skin.

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: No eye irritation
Remarks: (ECHA)

**Respiratory or skin sensitization**
Sensitisation test: - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Based on available data the classification criteria are not met.
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow
Result: negative

**Carcinogenicity**
Did not show carcinogenic effects in animal experiments.

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

**Specific target organ toxicity - single exposure**
Causes damage to organs. - Eyes, Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Acute oral toxicity - Nausea, Vomiting
Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available
SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

Components
formaldehyde
Toxicity to fish
static test LC50 - Morone saxatilis - 6,7 mg/l - 96 h
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia pulex (Water flea) - 5,8 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae
static test EC50 - Desmodesmus subspicatus (green algae) - 4,89 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to bacteria
static test EC50 - activated sludge - 19 mg/l - 3 h
(OECD Test Guideline 209)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test NOEC - Daphnia magna (Water flea) - >= 6,4 mg/l - 21 d
(OECD Test Guideline 211)
**Methanol**

**Toxicity to fish**
flow-through test LC50 - *Lepomis macrochirus* (Bluegill) - 15.400,0 mg/l - 96 h
(US-EPA)

**Toxicity to daphnia and other aquatic invertebrates**
semi-static test EC50 - *Daphnia magna* (Water flea) - 18.260 mg/l - 96 h
(OECD Test Guideline 202)

**Toxicity to algae**
static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) - ca. 22.000,0 mg/l - 96 h
(OECD Test Guideline 201)

**Toxicity to bacteria**
static test IC50 - activated sludge - > 1.000 mg/l - 3 h
(OECD Test Guideline 209)

**Toxicity to fish (Chronic toxicity)**
NOEC - *Oryzias latipes* (Orange-red killifish) - 7.900 mg/l - 200 h
Remarks: (External MSDS)

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**
No data available

**SECTION 14: Transport information**

**14.1 UN number**
ADR/RID: 1198  
IMDG: 1198  
IATA: 1198

**14.2 UN proper shipping name**
ADR/RID: FORMALDEHYDE SOLUTION, FLAMMABLE  
IMDG: FORMALDEHYDE SOLUTION, FLAMMABLE  
IATA: Formaldehyde solution, flammable

**14.3 Transport hazard class(es)**
ADR/RID: 3 (8)  
IMDG: 3 (8)  
IATA: 3 (8)

**14.4 Packaging group**
ADR/RID: III  
IMDG: III  
IATA: III

**14.5 Environmental hazards**
ADR/RID: no  
IMDG Marine pollutant: no  
IATA: no

**14.6 Special precautions for user**
Tunnel restriction code: (D/E)
Further information: No data available
SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

National legislation

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

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 vapor.
H226 Flammable liquid and vapor.
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.
H318 Toxic if swallowed or in contact with skin.
H319 Causes severe skin burns and eye damage.
H330 May cause an allergic skin reaction.
H331 Fatal if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 May cause an allergic skin reaction.
H371 Causes serious eye damage.

**Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMHO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

<table>
<thead>
<tr>
<th>Classification of the mixture</th>
<th>Classification procedure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq.3</td>
<td>H226</td>
</tr>
<tr>
<td>Acute Tox.3</td>
<td>H301</td>
</tr>
<tr>
<td>Acute Tox.2</td>
<td>H330</td>
</tr>
<tr>
<td>Acute Tox.3</td>
<td>H311</td>
</tr>
<tr>
<td>Skin Corr.1B</td>
<td>H314</td>
</tr>
<tr>
<td>Eye Dam.1</td>
<td>H318</td>
</tr>
</tbody>
</table>

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Based on product data or assessment
Based on product data or assessment

The life science business of Merck operates as MilliporeSigma in the US and Canada.
Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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