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

### 1.1. Product Identifiers

Product name : Benzaldehyde
Type of product : Chemical substance
Product grade : LR, AR/ACS, AR, GC, Special Grade
CAS No : 100-52-7

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

Identified uses : Reagent for analysis

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

RYZE CHEMIE PRIVATE LIMITED
Gami Industrial Park, Unit.13, Second Floor, C Block,
Plot No.C-39-A, TTC Industrial area, Navi Mumbai,
Thane, Maharashtra-400705
Safety@ryzechemie.com

### 1.4. Emergency Telephone Number: +91- 9930060404

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

| | |
|---|---|
| Acute toxicity, (Category 4) | H302: Harmful if swallowed. |
| Acute toxicity, (Category 4) | H332: Harmful if inhaled. |
| Skin irritation, (Category 2) | H315: Causes skin irritation. |
| Eye irritation, (Category 2) | H319: Causes serious eye irritation. |
| Reproductive toxicity, (Category 1B) | H360Df: May damage the unborn child. Suspected of damaging fertility. |

| | |
|---|---|
| Specific target organ toxicity - single exposure, (Category 3), Respiratory system | H335: May cause respiratory irritation. |
| Long-term (chronic) aquatic hazard, (Category 2) | H411: Toxic to aquatic life with long lasting effects. |

## 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008**

Pictogram



| | |
|---|---|
| Signal Word | Danger |
| Hazard Statements | |
| H302 + H332 | Harmful if swallowed or if inhaled. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H360Df | May damage the unborn child. Suspected of damaging fertility. |
| H411 | Toxic to aquatic life with long lasting effects. |
| Precautionary Statements | |
| P273 | Avoid release to the environment. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| Supplemental Hazard Statements | none |

**Reduced Labeling (<= 125 ml)**

Pictogram



| | |
|---|---|
| Signal Word | Danger |
| Hazard Statements | |
| H360Df | May damage the unborn child. Suspected of damaging fertility. |
| Precautionary Statements | |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| Supplemental Hazard Statements | none |

## 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.

Ecological information:
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.
Toxicological information:
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.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Formula | : | C7H6O |
| Molecular weight | : | 106,12 g/mol |
| CAS-No. | : | 100-52-7 |
| EC-No. | : | 202-860-4 |
| Index-No. | : | 605-012-00-5 |

| Component | | Classification | Concentration |
|---|---|---|---|
| **benzaldehyde** | | | |
| CAS-No.<br>EC-No.<br>Index-No. | 100-52-7<br>202-860-4<br>605-012-00-5 | Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Repr. 1B; STOT SE 3; Aquatic Chronic 2; H302, H332, H315, H319, H360Df, H335, H411 | <= 100 % |

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

**General advice**
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. Consult a physician.

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

**If swallowed**
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

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
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
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.

## 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.

### 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.

## 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**
Protected from light.Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

**Storage class**
Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

### 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

**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). Safety glasses

**Skin protection**
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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: butyl-rubber
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Latex gloves
Minimum layer thickness: 0,6 mm
Break through time: 10 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

**Body Protection**
protective clothing

**Respiratory protection**
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

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.

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

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Physical state | liquid |
| b) | Color | colorless, to, light yellow |
| c) | Odor | No data available |
| d) | Melting point/freezing point | Melting point/freezing point: -26 °C |
| e) | Initial boiling point and boiling range | 177 - 179 °C at 1.013 hPa |
| f) | Flammability (solid, gas) | No data available |
| g) | Upper/lower flammability or explosive limits | Upper explosion limit: 8,5 %(V)<br>Lower explosion limit: 1,4 %(V) |
| h) | Flash point | 63 °C - closed cup - closed cup |
| i) | Autoignition temperature | No data available |
| j) | Decomposition temperature | No data available |
| k) | pH | 5,9 at 20 °C |
| l) | Viscosity | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) | Water solubility | 6,95 g/l at 25 °C |
| n) | Partition coefficient: n-octanol/water | log Pow: 1,4 at 25 °C - Bioaccumulation is not expected. |
| o) | Vapor pressure | 1,69 hPa at 25 °C |
| p) | Density | 1,044 g/cm3 at 25 °C |
| | Relative density | No data available |
| q) | Relative vapor density | No data available |
| r) | Particle | No data available |

characteristics

s) Explosive properties Not classified as explosive.

t) Oxidizing properties none

### 9.2 Other safety information

| | |
|---|---|
| Surface tension | 70,5 mN/m at 1g/l at 20 °C<br>- OECD Test Guideline 115 |
| Relative vapor density | 3,66 - (Air = 1.0) |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### 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:
bases
Alkali metals
Aluminum
Iron
performic acid
phenols
Oxygen
Oxidizing agents

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**
Acute toxicity estimate Oral - 1.430 mg/kg
(ATE value derived from LD50/LC50 value)
LC50 Inhalation - Rat - male and female - 4 h - 1 - 5 mg/l - dust/mist

(OECD Test Guideline 436)
LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg
Remarks: (ECHA)
The value is given in analogy to the following substances: Benzoic acid

**Skin corrosion/irritation**
Remarks: Causes skin irritation.
(ECHA)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)

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

**Germ cell mutagenicity**
Test Type: Micronucleus test
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 490
Result: negative

**Carcinogenicity**
No data available

**Reproductive toxicity**
May damage the unborn child.
Suspected of damaging fertility.

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

**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. |

Repeated dose toxicity - Rat - male and female - Oral - 103 Weeks - NOAEL (No observed adverse effect level) - 400 mg/kg
Remarks: (ECHA)

After absorption:

Damage to:

Kidney

Systemic effects:

Headache
Drowsiness
Convulsions
Dizziness
Shortness of breath
Unconsciousness
narcosis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 - Lepomis macrochirus - 1,07 mg/l - 96 h<br>(OECD Test Guideline 203) |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - Daphnia magna (Water flea) - 19,7 mg/l - 48 h<br>(OECD Test Guideline 202) |
| Toxicity to algae | static test ErC50 - Pseudokirchneriella subcapitata - 33,1 mg/l - 72 h<br>(OECD Test Guideline 201) |
| Toxicity to bacteria | static test IC50 - activated sludge - 759,3 mg/l - 3 h<br>(OECD Test Guideline 209) |
| Toxicity to fish(Chronic toxicity) | flow-through test NOEC - Pimephales promelas (fathead minnow) - 0,12 mg/l - 7 d<br>Remarks: (ECHA) |

### 12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 28 d<br>Result: 95 % - Readily biodegradable.<br>(OECD Test Guideline 301B) |

### 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

Forms toxic mixtures in water, dilution measures notwithstanding.
Discharge into the environment must be avoided.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

No data available

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1990 IMDG: 1990 IATA: 1990

### 14.2 UN proper shipping name

ADR/RID: BENZALDEHYDE
IMDG: BENZALDEHYDE
IATA: Benzaldehyde

### 14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

### 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 : (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.

**National legislation**

| | | |
|---|---|---|
| Seveso III: Directive 2012/18/EU of the European Parliament and of the Council | E2 | ENVIRONMENTAL HAZARDS |

on the control of major-accident hazards involving dangerous substances.

**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**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H360Df | May damage the unborn child. Suspected of damaging fertility. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Abbreviation and Acronyms**

CAS - Chemical Abstracts Service
TSCA - United States Toxic Substances Control Act Section 8(b)Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non- Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
WEL - Workplace Exposure Limit
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
DNEL - Derived No Effect Level
PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
NOEC - No Observed Effect Concentration
POW- Partition coefficient Octanol:Water
PBT - Persistent, Bioaccumulative, Toxic
vPvB - very Persistent, very Bioaccumulative
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organization for Economic Co-operation and Development
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
VOC - (Volatile Organic Compound)

**Disclaimer:** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

Ryze Chemie will not be held liable for any damage resulting from handling or from contact with the above product

**End of safety data sheet**