

2-Butanone**34861-2.5L**

Version 1.1

Issuing date 12/21/2016

Revision Date 05/26/2017

Print Date 08/06/2019

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : 2-Butanone

Number : 000000020451

Recommended use of the chemical and restrictions on use : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
Seelze, 30926

For further information, please contact: : 1-800-368-0050
+1-231-726-3171
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887
In Japan: +(81)-345209637
: (24 hours/day, 7 days/week)

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2
Acute toxicity, Category 5, Oral
Eye irritation, Category 2A
Specific target organ toxicity - single exposure, Category 3
Acute aquatic toxicity, Category 3

GHS Label elements, including precautionary statements

Symbol(s) :



Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.

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Precautionary statements

May be harmful if swallowed.
Causes serious eye irritation.
May cause drowsiness and dizziness.
Harmful to aquatic life.

: **Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If eye irritation persists: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : C₄H₈O

Chemical nature : Substance

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Chemical name	CAS-No.	Concentration
2-Butanone	78-93-3	100.00 %
2-Butanone		

4. FIRST AID MEASURES

- General advice : First aider needs to protect himself.
Move out of dangerous area.
Take off all contaminated clothing immediately.
- Inhalation : If inhaled, remove to fresh air.
Call a physician if irritation develops or persists.
- Skin contact : After contact with skin, wash immediately with plenty of water.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
Call a physician immediately.
- Ingestion : Rinse mouth with water.
Do NOT induce vomiting.
Call a physician immediately.

5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO₂)
Dry powder
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : Flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
Fire may cause evolution of:
carbon oxides (CO, CO₂).
- Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.
- Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Evacuate personnel to safe areas.
Remove all sources of ignition.
Wear personal protective equipment. Unprotected persons must be kept away.
Ensure adequate ventilation. |
| Environmental precautions | : Should not be released into the environment.
Do not flush into surface water or sanitary sewer system. |
| Methods and materials for containment and cleaning up | : Ventilate the area.
Do not use sparking tools.
Use explosion-proof equipment.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). |

7. HANDLING AND STORAGE**Handling**

- | | |
|---|--|
| Precautions for safe handling | : Wear personal protective equipment.
Use only in well-ventilated areas. |
| Advice on protection against fire and explosion | : Keep product and empty container away from heat and sources of ignition.
No smoking.
Take precautionary measures against static discharges.
Vapours may form explosive mixtures with air. |

Storage

- | | |
|--|---|
| Conditions for safe storage, including any incompatibilities | : Store in area designed for storage of flammable liquids.
Protect from physical damage.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Store in original container. |
|--|---|

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters****Appropriate engineering controls**

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Use with local exhaust ventilation.
Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	: Impervious butyl rubber gloves Gloves must be inspected prior to use. Replace when worn.
Eye protection	: Safety goggles
Skin and body protection	: Protective suit
Hygiene measures	: Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.
Protective measures	: Ensure that eyewash stations and safety showers are close to the workstation location. Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment. Do not breathe vapours or spray mist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Colour	: colourless
Odour	: solvent-like
pH	: Note: no data available
Melting point/range	: -87 °C
Boiling point/boiling range	: 79 - 81 °C
Flash point	: 25 °F (-4 °C) Method: closed cup

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Lower explosion limit	: 1.8 %(V)
Upper explosion limit	: 11.5 %(V)
Vapour pressure	: 101 hPa at 20 °C(68 °F)
Density	: ca. 0.805 g/cm ³ at 20 °C
Water solubility	: ca. 290 g/l at 20 °C
Partition coefficient: n-octanol/water	: log Pow: 0.26
Ignition temperature	: 515 °C
Decomposition temperature	: Note: No decomposition if used as directed.
Viscosity, dynamic	: 0.423 mPa.s at 15 °C
Molecular weight	: 72.11 g/mol

10. STABILITY AND REACTIVITY

Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Keep away from heat and sources of ignition.
Incompatible materials to avoid	: Oxidizing agents Oxidizing solids Oxidizing liquids
Hazardous decomposition products	: Carbon oxides

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11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50: 2,193 mg/kg
Species: Rat
Method: OECD 423
Test substance: REACH dossier "read-across"
- Acute inhalation toxicity : Note: no data available
- Acute dermal toxicity : Note: no data available
- Skin irritation : Species: Rabbit
Result: non-irritant
Method: OECD Test Guideline 404
Test substance: REACH dossier "read-across"
- Eye irritation : Species: Rabbit
Result: irritating
Method: OECD Test Guideline 405
- Sensitisation : Buehler Test
Species: Guinea pig
Result: non-sensitizing
Method: OECD Test Guideline 406
- Repeated dose toxicity : Species: Rat
Application Route: Inhalation
Exposure time: 90 d
NOAEL (No observed adverse effect level): 5014 ppm
Method: OECD Test Guideline 413
Note: Subchronic toxicity
- Genotoxicity in vitro : Test Method: In vitro mammalian cell gene mutation test
Cell type: Mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476
- : Test Method: Ames test
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 471

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Genotoxicity in vivo	: Test Method: Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: negative
Aspiration toxicity	: Not classified due to data which are conclusive although insufficient for classification.
Teratogenicity	: Species: RatApplication Route: Inhalation NOAEC: 1,002 ppm Method: OECD Test Guideline 414

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish	: static test LC50: 2,993 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: Immobilization EC50: 308 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202 : static test EC50: 68 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
Toxicity to algae	: Growth rate EC50: 1,972 mg/l Exposure time: 72 h Species: Selenastrum capricornutum (green algae) Method: OECD Test Guideline 201

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Persistence and degradability

Biodegradability : Result: rapidly biodegradable
Value: 98 %
Method: OECD 301 D

Bioaccumulative potential

Bioaccumulation : Note: Bioaccumulation is unlikely.

Ecotoxicology Assessment

Results of PBT assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

13. DISPOSAL CONSIDERATIONS

WDPCCL Waste Disposal and : Specially Controlled Industrial Waste
Public Cleansing Law

Disposal methods : In accordance with local and national regulations.

14. TRANSPORT INFORMATION**ADR**

UN/ID No. : UN 1193
Description of the goods : ETHYL METHYL KETONE
Class : 3
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

IATA

UN/ID No. : UN 1193
Description of the goods : Ethyl methyl ketone
Class : 3
Packing group : II
Labels : 3
Packing instruction (cargo aircraft) : 364

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Packing instruction : 353
(passenger aircraft)
Packing instruction : Y341
(passenger aircraft)

IMDG

UN/ID No. : UN 1193
Description of the goods : ETHYL METHYL KETONE
Class : 3
Packing group : II
Labels : 3
EmS Number 1 : F-E
EmS Number 2 : S-D

Marine pollutant : no

15. REGULATORY INFORMATION**National regulatory information**

Deleterious Substances - : Listed
Cabinet Order
JP DS CO 98.10

Substances Subject to be :
Notified Names Threshold Concentration: 1 % wt 570
JP MSDSD

Substances Subject to be : Article 18
Indicated Names Threshold limits: 1 % wt 36.3
JPISHL LR

Vessel Safety Law : Flammable liquids (Article 2 and 3 of rules on shipping and
JP VSL storage of dangerous goods and its Attached Table 1)

Aviation Law : Flammable liquids (Article 194 of The Enforcement Rules of
JP AVL Aviation Law and its Attached Table 1)

Fire Service Law : Type 1 petroleums
JP FSL DS4 Flammable liquids
II

Other international regulations

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Notification status

US. Toxic Substances
Control Act : On TSCA Inventory

Australia. Industrial Chemical
(Notification and
Assessment) Act : On the inventory, or in compliance with the inventory

Canada. Canadian
Environmental Protection Act
(CEPA). Domestic
Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Toxic Chemical
Control Law (TCCL) List : On the inventory, or in compliance with the inventory

Philippines. The Toxic
Substances and Hazardous
and Nuclear Waste Control
Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing
Chemical Substances : On the inventory, or in compliance with the inventory

New Zealand. Inventory of
Chemicals (NZIoC), as
published by ERMA New
Zealand : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION**Further information**

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. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group