

**2-Butanone****34861-4X4L**

Version 1.6

Revision Date 06/13/2019

Print Date 05/12/2023

**SECTION 1. IDENTIFICATION**

Product name : 2-Butanone

Number : 000000011388

Product Use Description : Solvent

Manufacturer or supplier's details : Honeywell International Inc.  
1953 South Harvey Street  
Muskegon, MI 49442

For more information call : 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**  
:  
: (24 hours/day, 7 days/week)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : sweet pungent acetone-like

**Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2  
Eye irritation, Category 2A  
Specific target organ toxicity - single exposure, Category 3,  
Central nervous system

**GHS Label elements, including precautionary statements**

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Symbol(s)

:



Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapour.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

Precautionary statements

**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.  
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

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plant.

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Formula : C<sub>4</sub>H<sub>8</sub>O

Chemical nature : Substance

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

**SECTION 4. FIRST AID MEASURES**

Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.

Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

**Notes to physician**

Indication of immediate medical attention and special treatment needed, if : Treat symptomatically.

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necessary

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Cool closed containers exposed to fire with water spray.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : Extremely 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/flashback to vapor source.  
In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment. Unprotected persons must be kept away.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Prevent product from entering drains.  
Do not flush into surface water or sanitary sewer system.  
Discharge into the environment must be avoided.  
Do not allow run-off from fire fighting to enter drains or water

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Methods and materials for  
containment and cleaning  
up

: Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain spillage, and then collect with non-combustible  
absorbent material, (e.g. sand, earth, diatomaceous earth,  
vermiculite) and place in container for disposal according to  
local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE****Handling**

Precautions for safe  
handling

: Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

Advice on protection against  
fire and explosion

: Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning  
transfer operations.  
Use explosion-proof equipment.  
Keep product and empty container away from heat and sources  
of ignition.  
No sparking tools should be used.  
No smoking.

**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.  
Containers which are opened must be carefully resealed and  
kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.

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Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- |                          |   |   |
|--------------------------|---|---|
| Protective measures      | : | Ensure that eyewash stations and safety showers are close to the workstation location.  |
| Engineering measures     | : | Use with local exhaust ventilation.<br>Prevent vapour buildup by providing adequate ventilation during and after use.   |
| Eye protection           | : | Do not wear contact lenses.<br>Wear as appropriate:<br>Safety glasses with side-shields<br>If splashes are likely to occur, wear:<br>Goggles or face shield, giving complete protection to eyes   |
| Hand protection          | : | Solvent-resistant gloves<br>Gloves must be inspected prior to use.<br>Replace when worn.  |
| Skin and body protection | : | Wear as appropriate:<br>Solvent-resistant apron<br>Flame retardant antistatic protective clothing.<br>If splashes are likely to occur, wear:<br>Protective suit   |
| Respiratory protection   | : | In case of insufficient ventilation wear suitable respiratory equipment.<br>For rescue and maintenance work in storage tanks use self-contained breathing apparatus.<br>Use NIOSH approved respiratory protection.  |
| Hygiene measures         | : | When using, do not eat, drink or smoke.<br>Wash hands and face before breaks and immediately after handling the product.<br>Keep working clothes separately.<br>Remove and wash contaminated clothing before re-use.<br>Do not swallow.<br>Avoid breathing vapours, mist or gas.<br>Avoid contact with skin, eyes and clothing. |

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**Exposure Guidelines**

Components	CAS-No.	Value	Control parameters	Update	Basis
2-Butanone	78-93-3	TWA : Time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
2-Butanone	78-93-3	STEL : Short term exposure limit	(300 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
2-Butanone	78-93-3	REL : Recommended exposure limit (REL):	590 mg/m3 (200 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
2-Butanone	78-93-3	STEL : Short term exposure limit	885 mg/m3 (300 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
2-Butanone	78-93-3	PEL : Permissible exposure limit	590 mg/m3 (200 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
2-Butanone	78-93-3	STEL : Short term exposure limit	885 mg/m3 (300 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
2-Butanone	78-93-3	TWA : Time weighted average	590 mg/m3 (200 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: liquid, clear
Color	: colourless
Odor	: sweet pungent acetone-like
Odor threshold	: Note: no data available
pH	: Note: Not applicable
Melting point/range	: -86.69 °C
Boiling point/boiling range	: 79.64 °C
Flash point	: 16 °F (-9 °C)
Lower explosion limit	: 1.4 %(V)
Upper explosion limit	: 11.4 %(V)
Vapor pressure	: 98.66 hPa at 20 °C(68 °F)
Vapor density	: 2.5 Note: (Air = 1.0)
Density	: 0.805 g/cm <sup>3</sup> at 20 °C
Water solubility	: 240 g/l at 20 °C



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Partition coefficient: n-octanol/water	: Note: no data available
Ignition temperature	: 404 °C
Viscosity, kinematic	: Note: no data available
Molecular weight	: 72.11 g/mol

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Heat, flames and sparks. Protect against light.
Incompatible materials	: Strong oxidizing agents Strong acids and strong bases Amines Ammonia Isocyanates Copper Pyridine Plastic materials can be attacked.
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO <sub>2</sub> )

**SECTION 11. TOXICOLOGICAL INFORMATION**

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Acute oral toxicity : LD50: 2,737 mg/kg  
Species: Rat

Acute inhalation toxicity : LC50: 23.5 mg/l  
Exposure time: 8 h  
Species: Rat

Acute dermal toxicity : LD50: 6,480 mg/kg  
Species: Rabbit

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

Toxicity to fish : flow-through test  
LC50: 3,220 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)

Toxicity to bacteria : EC50: 3,426 mg/l  
Exposure time: 5 min  
Species: Photobacterium phosphoreum

: EC50: 3,403 mg/l  
Exposure time: 30 min  
Species: Photobacterium phosphoreum

: Respiration inhibition  
EC50: 9.98 g/l  
Species: activated sludge

**Further information on ecology****SECTION 13. DISPOSAL CONSIDERATIONS**

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Disposal methods : Observe all Federal, State, and Local Environmental regulations.

**SECTION 14. TRANSPORT INFORMATION**

**DOT** UN/ID No. : UN 1193  
Proper shipping name : Ethyl methyl ketone  
Class : 3  
Packing group : II  
Hazard Labels : 3

**IATA** UN/ID No. : UN 1193  
Description of the goods : Ethyl methyl ketone  
Class : 3  
Packaging group : II  
Hazard Labels : 3  
Packing instruction (cargo aircraft) : 364  
Packing instruction (passenger aircraft) : 353  
Packing instruction (passenger aircraft) : Y341

**IMDG** UN/ID No. : UN 1193  
Description of the goods : Ethyl methyl ketone  
Class : 3  
Packaging group : II  
Hazard Labels : 3  
EmS Number : F-E, S-D  
Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION****Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

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

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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. Existing Chemicals Inventory (KECI) : 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

**National regulatory information**

US. Drug Enforcement Administration (DEA) Listed Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)) DEA EC : Listed

US. EPA CERCLA Hazardous Substances (40 CFR 302) : 2-Butanone 78-93-3  
 : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 5000 lbs  
 : 2-Butanone 78-93-3

**SARA 302 Components** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

**CERCLA Reportable Quantity** : 5000 lbs

**California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Massachusetts RTK** : 2-Butanone 78-93-3

**New Jersey RTK** : 2-Butanone 78-93-3

**Pennsylvania RTK** : 2-Butanone 78-93-3

**SECTION 16. OTHER INFORMATION**

	<b>HMIS III</b>	<b>NFPA</b>
Health hazard	: 2*	1
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

\* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

**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

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the user. This information should not constitute a guarantee for any specific product properties.

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

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