2-Butanone

33407-6X1L

Version 1.9 Revision Date 06.11.2025

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

1.1. Product identifier

Product name	:	2-Butanone
SDS-number	:	000000020451
Type of product	:	Substance
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name	:	butanone; ethyl methyl ketone
Index-No.	:	606-002-00-3

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

Use of the Substance/Mixture	:	Laboratory chemicals
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Solstice Advanced Materials US, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:	(49) 5137-999 0	
For further information, please contact:	:	SafetyDataSheet@solstice.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1 303-739-1378 (Medical)
	:	Poison Control Center: United Kingdom: (+44) 844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Flammable liquids Category 2
H225 Highly flammable liquid and vapour.
Eye irritation Category 2
H319 Causes serious eye irritation.
Specific target organ toxicity - single exposure Category 3 - Central nervous system
H336 May cause drowsiness or dizziness.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :



Signal word : Danger

Hazard statements :	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H336	May cause drowsiness or dizziness.
	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary statements :	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	Wear protective gloves/ eye protection/ face protection.
	P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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.

2.3. Other hazards

Vapours may form explosive mixtures with air.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS-No. Index-No. EC-No.	Classification 1272/2008	Concentration	Remarks
butanone; ethyl methyl ketone	78-93-3 606-002-00-3 201-159-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	100 %	

3.2. Mixtures

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
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:
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.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

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).

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. 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.

6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.
Pick for disposal in tightly closed containers

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Wear personal protective equipment. Use only in well-ventilated areas.

Advice on protection against fire and explosion:
Use only in explosion-proof areas. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. The heavy vapours can overcome a considerable distance up to the source of ignition.

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.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Store in original container. Keep in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
butanone; ethyl methyl ketone	EH40 WEL STEL	899 mg/m3 300 ppm		
butanone; ethyl methyl ketone	EH40 WEL TWA	600 mg/m3 200 ppm		
butanone; ethyl methyl ketone	EH40 WEL SKIN_DES			Can be absorbed through the skin.
butanone; ethyl methyl ketone	EH40 WEL			Listed
butanone; ethyl methyl ketone	EU ELV STEL	900 mg/m3 300 ppm		Indicative
butanone; ethyl methyl ketone	EU ELV TWA	600 mg/m3 200 ppm		Indicative

EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
STEL - Short term exposure limit
EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
TWA - Time weighted average
EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
SKIN_DES - Skin designation:
EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
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DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
butanone; ethyl methyl ketone	Workers / Long-term systemic effects		600 mg/m3	Inhalation	
butanone; ethyl methyl ketone	Workers / Long-term		1161mg/kg bw/d	Skin contact	

	systemic effects				
butanone; ethyl methyl ketone	Consumers / Long-term systemic effects		106 mg/m3	Inhalation	
butanone; ethyl methyl ketone	Consumers / Long-term systemic effects		412mg/kg bw/d	Skin contact	
butanone; ethyl methyl ketone	Consumers / Long-term systemic effects		31mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
butanone; ethyl methyl ketone	Fresh water: 55,8 mg/l	
butanone; ethyl methyl ketone	Marine water: 55,8 mg/l	
butanone; ethyl methyl ketone	Sewage treatment plant: 709 mg/l	
butanone; ethyl methyl ketone	Fresh water sediment: 284,7 mg/kg dw	
butanone; ethyl methyl ketone	Marine sediment: 284,7 mg/kg dw	
butanone; ethyl methyl ketone	Soil: 22,5 mg/kg dw	

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.
Do not breathe vapours or spray mist.

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

Personal protective equipment
Respiratory protection:
In the case of vapour formation use a respirator with an approved filter.
Recommended Filter type:
Organic vapour type

Hand protection:
Glove material: butyl-rubber
Break through time: > 240 min
Glove thickness: 0,7 mm
Butoject® 898
Gloves must be inspected prior to use.
Replace when worn.
Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a)	Physical state	:	liquid
(b)	Colour	:	colourless

(c) Odour	:	solvent-like
(d) Melting point/freezing point	:	-87 °C
(e) Boiling point/boiling range	:	79 - 81 °C
(f) Flammability	:	Not applicable
(g) Lower and upper explosion limit	:	Lower explosion limit 1,8 %(V)
	:	Upper explosion limit 11,5 %(V)
(h) Flash point	:	-4 °C Method: closed cup
(i) Auto-ignition temperature	:	515 °C
(j) Decomposition temperature	:	No decomposition if used as directed.
(k) pH	:	No data available
(l) Viscosity, kinematic	:	No data available
(m) Solubility(ies)	:	Water solubility: ca. 290 g/l at 20 °C
(n) Partition coefficient: n-octanol/water	:	log Pow 0,26
(o) Vapour pressure	:	101 hPa at 20 °C
(p) Density and / or relative density	:	ca. 0,805 g/cm3 at 20 °C

(q) Relative vapour density	:	No data available
(r) Particle characteristics	:	No data available

9.2 Other Information

Polymer characteristics	:	No data available
Evaporation rate	:	No data available
Viscosity, dynamic	:	0,423 mPa.s at 15 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.

10.5. Incompatible materials

Oxidizing agents

10.6. Hazardous decomposition products

Carbon oxides

SECTION 11: Toxicological information

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

(a) Acute toxicity

Acute oral toxicity:
LD50
Species: Rat
Value: 2.193 mg/kg
Method: OECD 423
Test substance: REACH dossier “read-across”

Acute dermal toxicity:
LD50
Species: Rabbit
Value: > 8.050 mg/kg
Method: OECD Test Guideline 402

Acute inhalation toxicity:
No data available

Acute toxicity (other routes of administration):
No data available

(b) Skin corrosion/irritation:
Species: Rabbit
Result: non-irritant
Method: OECD Test Guideline 404
Test substance: REACH dossier “read-across”

(c) Serious eye damage/eye irritation:
Species: Rabbit
Result: irritating
Method: OECD Test Guideline 405

(d) Respiratory or skin sensitisation:
Buehler Test
Species: Guinea pig
Result: non-sensitizing
Method: OECD Test Guideline 406

(e) Germ cell mutagenicity:

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

Test Method: Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

(f) Carcinogenicity:
Species: not specified
Note: No data available

(g) Reproductive toxicity:
Species: not specified
Remarks: No data available
Method: OECD Test Guideline 414
Species: Rat
Route of Application: Inhalation
General Toxicity Maternal: NOAEC: 1.002 ppm
Teratogenicity: NOAEC: 1.002 ppm

(h) STOT-single exposure:
Assessment: May cause drowsiness or dizziness.

(i) STOT - repeated exposure:
Species: Rat
Application Route: Inhalation
Exposure time: 90 d
NOAEL: 5014 ppm
Method: OECD Test Guideline 413
Note: Subchronic toxicity
STOT - repeated exposure:
Remarks: No data available

(j) Aspiration hazard:

Not classified due to data which are conclusive although insufficient for classification.

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
Solvent removes skin oil from the skin.
Solvent vapours have a narcotic effect if inhaled in high concentrations.
Irritating to respiratory system.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
LC50
static test
Species: Pimephales promelas (fathead minnow)
Value: 2.993 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to aquatic plants:
EC50
Growth rate
Species: Selenastrum capricornutum (green algae)
Value: 1.972 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to aquatic invertebrates:
EC50
Immobilization
Species: Daphnia magna (Water flea)
Value: 308 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
EC50
static test
Species: Daphnia magna (Water flea)

Value: 68 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

12.2. Persistence and degradability

Biodegradability:
Biodegradation: 98 %
Exposure time: 28 d
Result: rapidly biodegradable
Method: OECD 301 D

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Not persistent, bioaccumulative, and toxic (PBT).
Not very persistent and very bioaccumulative (vPvB).

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006
For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID:1193 IMDG:1193 IATA:1193

14.2 UN proper shipping name

ADR/RID:ETHYL METHYL KETONE
IMDG:ETHYL METHYL KETONE
IATA:Ethyl methyl ketone

14.3 Transport hazard class(es)

ADR/RID:3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID:II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID:no Marine pollutant: no

14.6 Special precautions for user

No data available

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : P5c: FLAMMABLE LIQUIDS	**Quantity**: 5.000.000 kg **Quantity**: 50.000.000 kg	
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH),

		concentration limit of ≥ 0.1 % (w/w).

Other inventory information

USA. List of Active Substances on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as amended
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Domestic Substances List (DSL), as amended
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. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
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

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

butanone; ethyl methyl ketone	:	H225	Highly flammable liquid and vapour.
		H319	Causes serious eye irritation.
		H336	May cause drowsiness or dizziness.
		EUH066	Repeated exposure may cause skin dryness or cracking.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

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