

2-Methylbutane

M32631-1L

Version 1.4

Revision Date 17.12.2022

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

1.1. Product identifier

Product name : 2-Methylbutane
SDS-number : 000000020531
Type of product : Substance
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name : isopentane; 2-methylbutane
Index-No. : 601-006-00-1
REACH Registration Number : no data available

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 International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
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Telephone :
For further information, please contact: : SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
+1-303-389-1414 (Medical)
Country based Poison Control Center : see chapter 15.1

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Flammable liquids Category 1

H224 Extremely flammable liquid and vapour.

Aspiration hazard Category 1

H304 May be fatal if swallowed and enters airways.

Specific target organ toxicity - single exposure Category 3 - Central nervous system

H336 May cause drowsiness or dizziness.

Long-term (chronic) aquatic hazard Category 2

H411 Toxic to aquatic life with long lasting effects.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word

: Danger

Hazard statements

: H224 Extremely flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements

: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ eye protection/ face protection.

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P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

Inhalation of high vapour concentrations can cause CNS-depression and narcosis. High vapour concentrations can cause headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness. Vapours may form explosive mixtures with air.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
isopentane; 2-methylbutane	78-78-4 601-006-00-1 201-142-8	Flam. Liq. 1; H224 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411 EUH066	100 %	

3.2. Mixture

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:

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First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. If unconscious, place in recovery position and seek medical advice.

Inhalation:

If breathed in, move person into fresh air. Call a physician immediately.

Skin contact:

After contact with skin, wash immediately with plenty of soap and water. Consult a physician.

Eye contact:

Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses. Protect unharmed eye. Consult a physician.

Ingestion:

When swallowed, allow water to be drunk. 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:

High volume water jet

5.2. Special hazards arising from the substance or mixture

Heating will cause pressure rise with risk of bursting and subsequent explosion

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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. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Do not use a solid water stream as it may scatter and spread fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

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:
Exhaust ventilation at the object is necessary.

Advice on protection against fire and explosion:
Take measures to prevent the build up of electrostatic charge. Keep away from sources of ignition - No smoking.

Hygiene measures:
General industrial hygiene practice. Take off all contaminated clothing immediately. Keep working clothes separately. Recommended preventive skin protection

7.2. Conditions for safe storage, including any incompatibilities

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Further information on storage conditions:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

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
isopentane; 2-methylbutane	EH40 WEL TWA	1.800 mg/m ³ 600 ppm		
isopentane; 2-methylbutane	EU ELV TWA	3.000 mg/m ³ 1.000 ppm		Indicative

TWA - Time weighted average

DNEL/ PNEC-Values

No DNEL-data available.

No PNEC data available.

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.

Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures

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Local exhaust

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Hand protection:

Glove material: Nitrile rubber

Break through time: > 480 min

Glove thickness: 0,4 mm

Camatril® 730

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 recommends to use the chemical protective glove in practice not longer than 50% of the recommended 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:

Flame retardant antistatic protective clothing.

Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire.

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

Physical state : liquid

Colour : colourless

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Odour	:	characteristic
molecular weight	:	72,15 g/mol
Melting point/range	:	-160 °C
Boiling point/boiling range	:	28 °C at 1.013 hPa
Upper explosion limit	:	7,6 %(V)
Lower explosion limit	:	1,4 %(V)
Flash point	:	-51 °C at 1.013 hPa
Auto-ignition temperature	:	420 °C at 1.013 hPa
Decomposition temperature	:	No decomposition if used as directed.
pH	:	No data available
Viscosity, kinematic	:	No data available
Water solubility	:	insoluble
Solubility in other solvents	:	Soluble in most organic solvents
Partition coefficient: n-octanol/water	:	log Pow 4 at: 25 °C Method: OECD Test Guideline 117
Vapour pressure	:	100 kPa at 27,5 °C
Density	:	0,62 g/cm ³ at 20 °C
Relative vapour density	:	No data available

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9.2 Other Information

- Oxidizing properties : The substance or mixture is not classified as oxidizing.
- Evaporation rate : No data available
- Viscosity, dynamic : 0,214 mPa.s
at 25 °C
-

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.
Keep away from direct sunlight.

10.5. Incompatible materials

Plastic materials can be attacked.
Formation of explosive gas/air mixtures.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

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

Acute dermal toxicity:

No data available

Acute inhalation toxicity:

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

Skin irritation:

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

Eye irritation:

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

Respiratory or skin sensitisation:

Route of exposure: Dermal

Species: Guinea pig

Result: non-sensitizing

Method: OECD Test Guideline 406

Carcinogenicity:

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

Germ cell mutagenicity:

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

Reproductive toxicity:

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

Aspiration hazard:

Classification based on Annex VI of regulation 1272/2008/EC.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information:

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Solvent removes skin oil from the skin.
Solvent vapours have a narcotic effect if inhaled in high concentrations.
Not mutagenic in Ames Test

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

Classification based on Annex VI of regulation 1272/2008/EC.

Toxicity to aquatic plants:

Classification based on Annex VI of regulation 1272/2008/EC.

Toxicity to Microorganisms:

Classification based on Annex VI of regulation 1272/2008/EC.

Toxicity to aquatic invertebrates:

Classification based on Annex VI of regulation 1272/2008/EC.

12.2. Persistence and degradability

Biodegradability:

aerobic

Biodegradation: 71,4 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

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No data available

12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.
The product should not be allowed to enter drains, water courses or the soil.

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

ADR/RID:1265

IMDG:1265

IATA:1265

14.2 UN proper shipping name

ADR/RID:PENTANES

IMDG:PENTANES

IATA:Pentanes

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA: I

14.5 Environmental hazards

ADR/RID: yes

Marine pollutant: yes

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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 : P5a: FLAMMABLE LIQUIDS	Quantity: 10.000 kg Quantity: 50.000 kg	
Directive 2012/18/EC Listed in Regulation : E2: Hazardous to the Aquatic Environment	Quantity: 200.000 kg Quantity: 500.000 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 $\geq 0.1\%$ (w/w).

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250

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Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	
Latvia	+37167042473

Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
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. 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

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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

isopentane; 2-methylbutane : H224 Extremely flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
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 bioaccumulative substance
PBT Persistent, bioaccumulative and toxic substance

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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.
