

Safety data sheet as per Commission Regulation (EU) 2020/878
Product: 2-Methyl-1,3-pentadiene mixture/ 2-MPD



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name 2-Methyl-1,3-pentadiene mixture/ 2-MPD
Chemical Name 2-methylpenta-1,3-diene

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

Relevant identified uses Perfumery intermediate
Uses identified against Not for use other than those specified

1.3 Details of the supplier of the safety data sheet:

Manufacturer Prasol Chemicals Limited (Formerly known as Prasol Chemicals Private Limited)
Prasol House, Plot No.A-17/2/3,
T.T.C. Industrial Area, Khairne M.I.D.C.,
Navi Mumbai - 400 710.
Maharashtra, India.
Telephone +91-22-27782555/ 61952500
Telefax +91-22-61952577
e-mail address sales@prasolchem.com; inquiry@prasolchem.com

1.4 Emergency telephone number

Telephone +91-22- 27782555/ 61952500
Language English

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Flammable Liquid Category 2 H225 Highly flammable liquid and vapor
Aspiration Toxicity Category 1 H304 May be fatal if swallowed and enters airways

Information concerning particular hazards for human and environment: No further information

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

Hazard

pictograms



GHS02



GHS08

Signal word

Danger

Hazard statements

H225
H304

Highly flammable liquid and vapor
May be fatal if swallowed and enters airways

Precautionary statements

General

-

Prevention

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233

Keep container tightly closed

P240

Ground and bond container and receiving equipment

P241

Use explosion - proof [electrical/ventilating/lighting/...] equipment

P242

Use non-sparking tools

P243

Take action to prevent static discharge

P280

Use protective gloves and eye protection.

Response

P301 + P316

IF SWALLOWED: Get emergency help immediately.

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P331

Do NOT induce vomiting.

P370+P378

In case of fire: Use CO₂, dry powder, foam or water spray to extinguish.

Storage

P403+P235

Store in a well-ventilated place. Keep cool.

P405

Store locked up.

Disposal

P501

Dispose of contents and container in accordance with national regulations

2.3 Other hazards

Not a PBT, vPVB substance according to the criteria of Annex XIII to REACH regulation

Not having endocrine disruptive properties as per criteria of Delegated Regulations (EC) 2017/2100 or (EC) 2018/605

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Multi-constituent substance

Molecular Formula

C₆H₁₀O

Molecular Weight

82.14

Ingredient	CAS No.	EC No.	Classification	Concentration (%)
2-methylpenta-1,3-diene	1118-58-7	214-264-1	Flam. Liq, 2, Asp. Tox. 1	70 min
4-methylpenta-1,3-diene	926-56-7	213-137-8	H225, H304	30 max

3.2 Mixtures not applicable

None of the ingredients present are classified as skin sensitisers 1A, respiratory sensitisers 1A, aspiration hazards and endocrine disruptors. Specific Concentration limits, M-Factors have not been assigned.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information

Take off all contaminated clothing immediately.

After inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention

After skin contact

Wash off with plenty of water immediately, seek medical advice if necessary.

After eye contact

Rinse with plenty of water immediately and seek medical advice.

After swallowing

Do not induce vomiting and seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

General: Unconsciousness Dizziness Headache.

In case of ingestion: Gastric and intestinal problems.

After inhalation

EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Headache. Dizziness. Coordination disorders. Narcosis. Impaired concentration. Respiratory difficulties.

After skin contact

Tingling/irritation of the skin.

After eye contact

Irritation of the eye tissue. Inflammation/damage of the eye tissue.

After swallowing

AFTER INGESTION OF HIGH QUANTITIES: Vomiting. Nausea. Disturbances of consciousness

Chronic symptoms

Skin rash/inflammation

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

SMALL FIRE: Dry chemical, CO₂, water spray or regular foam.

LARGE FIRE: Water spray, fog or regular foam.

Use of water spray when fighting fire may be inefficient.

CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Flammable. Explosive mixtures with air may even form at room temperature. Beware of re-ignition

Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may back-flash over great distances when ignited. Ignition by hot surfaces, sparks and open flames.

May form toxic carbon oxides if case of fire.

5.3 Advice for firefighters

Do not expose to high temperature. Danger of bursting and explosion. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Remove persons not involved upwind.

For small spills and large spills: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Clear spills immediately.

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For non-emergency personnel	Protective equipment: Gloves, Face shield, Protective clothing. Emergency procedures: Mark the danger area. No naked flames. Wash contaminated clothes.
For emergency responders	Protective equipment: Equip cleanup crew with proper protection. Emergency procedures: Ventilate area.
6.2 Environmental precautions	Plug leak if safely possible. Do not allow to enter drains, surface waters, basements or pits. When released into the environment, alert police and fire brigade.
6.3 Methods and material for containment and cleaning up	For containment: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply Explosion protection required For cleaning up: Soak up with inert absorbent material eg. sand, earth, vermiculite or powdered lime stone and keep in suitable, closed containers for disposal. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
6.4 Reference to other sections	Section 8 for information on personal protection equipment. Section 13 for disposal information

◆ SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Measures to prevent fire: Keep away from naked flames/heat. Use spark-/explosion proof appliances.

Measures to prevent aerosol and dust generation: Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use.

Measures to protect the environment: Keep container tightly closed. If possible, use material transfer, metering and blending plants that are closed.

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Advice on general occupational hygiene

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep only in the original container in a cool, well ventilated place away from ignition sources and incompatible materials. Keep container closed when not in use
Follow normal measures for preventive fire protection.

Packaging material

SUITABLE MATERIAL: steel, stainless steel

Incompatible products

Plastic materials.

Storage conditions

Store in a cool, dry area. Ventilation at floor level. Store at ambient temperature. Keep container tightly closed in a dry and well-ventilated place. Residual vapours might explode on ignition; do not apply heat, cut, drill and grind or weld on or near the container.

Advice on common storage

Observe prohibition against storing together!

Storage stability

Stable under recommended storage conditions

Storage class

2 Flammable liquids

7.3 Specific end use(s)

No additional information available

◆ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

To be handled under strictly controlled conditions

Occupational Exposure Limit: not defined

No DNEL/ DMEC/ PNEC data available

8.2 Exposure controls

Appropriate engineering controls

Explosion protection required. Provide good ventilation and/or an exhaust system in the work area. If possible, use closed lines for material transfer, metering and blending.

Personal protective equipment

For eye/ face protection

closed goggles, face shield

For skin protection

Hand protection

Butyl-rubber 0.5 mm > 480 min

Body protection

Use solvent-resistant protective clothing.
Flame-retardant antistatic protective clothing; safety shoes

For respiratory protection

Respiratory equipment with suitable filter or a self-contained respiratory apparatus.

For thermal hazards

Flammable liquid; do not expose to heat

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For Environmental exposure

If possible use closed metering and blending plants. Do not inhale vapours / aerosols. Avoid contact with skin and eyes. Remove immediately all contaminated clothing. Use disposable clothing if appropriate. Do not eat, drink or smoke during use.

◆ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Colourless
Odour	petroleum-like
Odour threshold	Not determined
Melting point	-44°C
Boiling point	74-75°C
Flammability (solid, gas)	flammable
Flammability limits	No data available
Flash point	-34°C (Closed cup) Flam Liq. Cat 2, H225
Ignition temperature	No data available
Decomposition temperature	no data available
pH	not determined (does not liberate H ions when dissolved)
Viscosity at 20 °C	No data available
Relative density	0.71-73 at 25°C
Solubility in water	insoluble at 20°C
Partition coefficient	2.99 (octanol-water)
Vapour pressure	5.11 psi at 20°C
Vapour density	No data available
Particle characteristics	Not applicable (substance is a liquid)

9.2 Other information

Evaporation rate	No data available
Explosive properties	Forms explosive peroxides in contact with air by autoxidation.
Oxidizing properties	no oxidizing properties based on chemical structure

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may back-flash over great distances when ignited. May become electrostatically charged.

10.2 Chemical stability

Under storage at 2-8°C, the product is stable over longer periods.

10.3 Possibility of hazardous reactions

Methylpentadiene may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides.

10.4 Conditions to avoid

Highly flammable. Concentrated vapours are heavier than air. Forms explosive mixtures with air, also in empty, uncleaned containers.

10.5 Incompatible materials

Strong oxidizing agents, strong reducing agents, acids

10.6 Hazardous decomposition products

Thermal decomposition products- carbon oxides

◆ SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 oral rat >2000 mg/kg bw Non toxic

Skin irritation

Not irritating (rabbit)

Serious eye irritation

Not irritating - 24 h (rabbit)

Respiratory or skin sensitization

No sensitizing effects known

Germ cell mutagenicity

non mutagenic (Ames test)

Carcinogenicity

no indications for a carcinogenic potential

Reproductive toxicity

no adverse effect on reproduction (rat)

STOT-single exposure

No further data

STOT-repeated exposure

no data available

Aspiration hazard

Asp Tox. Cat 1, H304

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11.2 Information on other hazards

Endocrine disrupting properties

No endocrine disrupting properties

Other information

No further information

◆ SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity

No data available

12.2 Persistence and degradability

Biodegradation

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not a PBT, vPvB substance according to the REACH regulation

12.6 Endocrine disrupting properties

No endocrine disrupting properties

12.7 Other adverse effects

No further information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Observe all national, state and local environmental regulations.

Product disposal

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Packaging disposal

Clean container with water. Recover waste water for processing later. Destroy packaging by incineration at an approved waste disposal site.

Sewage disposal

Do not dispose in sewage.

◆ SECTION 14: TRANSPORT INFORMATION

14.1 UN Number

ADR/RID

2461

IMDG

2461

ICAO/IATA

2461

14.2 UN proper shipping name

METHYLPENTADIENE

14.3 Transport hazard class

3

3

3

14.4 Packaging group

II

II

II

14.5 Environmental hazards

not environmentally hazardous, not a marine pollutant

14.6 Special precautions for the user

Flammable liquid Cat. 2; Flash point -34°C (closed cup)

EmS Number F-E, S-D

14.7 Maritime transport in bulk according to IMO instruments

Ship type: 3; Pollution Category: Y

SECTION 15: REGULATORY INFORMATION

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

Major accident hazard

Seveso III

P5a, P5b, P5c (Flammable)

International Chemical Inventory Status

USA (TSCA)

listed

Canada (DSL)

listed

Australia (AICS)

listed

Japan (MITI)

listed

Korea (KECL)

listed

Philippines (PICCS)

listed

China

listed

New Zealand

listed

Taiwan

listed

15.2 Chemical safety assessment

Chemical Safety Assessment will be carried out at time of Reach registration.

◆ SECTION 16: OTHER INFORMATION

Indication of changes: Sections in which changes have been made since the last version are marked with a diamond ◆ in the left hand margin.

Abbreviations and acronyms:

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

AICS Australian Inventory of Chemical Substances

ATE Acute Toxicity Estimate

CAS Chemical Abstracts Service (division of the American Chemical Society)

CLP Classification for Labeling and Packaging

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DMEL	Derived minimal effect level
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC	European Commission
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IATA	International Air Transport Association
IBC	International Bulk Chemical
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
KECL	Korea Existing Chemicals List
LD50	Lethal dose, 50 percent
M-factor	Multiplication Factor
MITI	Ministry of International Trade and Industry
PBT	Persistent, bioaccumulative and toxic substances
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
SCL	Specific concentration limit
STOT	Specific target organ toxicity
TSCA	Toxic Substances Control Act
UN	United Nations
vPVB	(very) Persistent, (very) Bioaccumulative

Key literature references and sources for data

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ECHA <https://echa.europa.eu/registration-dossier/-/registered-dossier/10144>

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