

Section 1. Product and Company Identification

**Product Name** 2-Methylpentamethylenediamine  
**CAS Number** 15520-10-2

**Parchem - fine & specialty chemicals**

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Section 2. Hazards Identification

**Classification of the substance or mixture**

**Physical hazards**

**Flammable liquids:** Category 4

**Health hazards**

**Acute toxicity, oral:** Category 4

**Acute toxicity, dermal:** Category 4

**Acute toxicity, inhalation:** Category 4

**Skin corrosion/irritation:** Category 1A

**Serious eye damage/eye irritation:** Category 1

**Specific target organ toxicity, single exposure:** Category 3 respiratory tract irritation

**Environmental hazards**

**Hazardous to the aquatic environment, acute hazard:** Category 3

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard statement:** Combustible liquid. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. May cause respiratory irritation. Harmful to aquatic life.



**Precautionary statement**

**Prevention:** Keep away from flames and hot surfaces-No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

**Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Remove Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

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

**Disposal:** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards:** None known.

**Supplemental information:** None

Section 3. Composition / Information on Ingredients

**Common Name** 2-Methylpentamethylenediamine  
**Synonym(s)** 2-METHYL-1,5-PENTAMETHYLENEDIAMINE  
**CAS Number** 15520-10-2

COMPONENT	CAS NUMBER	CONCENTRATION
2-Methylpentamethylenediamine	15520-10-2	> 98.5

Section 4. First Aid Measures

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If the affected person is not breathing, apply artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim inhaled the substance. Get medical attention immediately.

**Skin contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse. Get medical attention immediately.

**Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do, continue rinsing. Call a physician or poison control center immediately.

**Ingestion:** If swallowed, do NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not use mouth-to-mouth method if victim ingested the substance. Get medical attention immediately.



**Most important symptoms/effects, acute and delayed**

**Skin:** Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Harmful in contact with skin.

**Eyes:** Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Permanent eye damage including blindness could result.

**Ingestion:** Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Indication of immediate medical attention and special treatment needed:** Provide general supportive measures and treat symptomatically.

**General information:** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Call a physician if symptoms develop or persist.

Section 5. Firefighting Measures

**Suitable extinguishing media:** Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Unsuitable extinguishing media:** Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed. Decomposition of this product may emit oxides of nitrogen and carbon monoxide. Combustible. Vapors may travel considerable distance to a source of ignition and flash back.

**Special protective equipment and precautions for firefighters:** Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.

**Firefighting equipment/instructions:** Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. In the event of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

**Specific methods:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Water runoff can cause environmental damage. ALWAYS stay away from tanks engulfed in flame.

**General fire hazards:** Irritating and toxic gases or fumes may be released during a fire. Fire and explosion hazards are moderate when this product is exposed to heat or flame.

Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Immediately evacuate personnel to safe areas. Ventilate closed spaces before entering them. Keep out of low areas. Remove all sources of ignition. Do not touch or walk through spilled material.

**Methods and materials for containment and cleaning up:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material.

**Large Spills:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

**Small Spills:** Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly. Never return spills in original containers for re-use.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin and eyes. Do not breathe mist/vapor/spray. Keep container closed. Use care in handling/storage. Use only outdoors or in a well-ventilated area. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Do not taste or swallow. Wash hands after handling and before eating. Avoid release to the environment.

**Conditions for safe storage, including any incompatibilities:** Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Keep tightly closed in a dry, cool and well-ventilated place. Keep this material away from food, drink and animal feed. Keep away from heat, sparks, and flame. Store away from incompatible materials.

#### Section 8. Exposure Controls / Personal Protection

**Occupational exposure limits:** No exposure limits noted for ingredient(s).

**Biological limit values:** No biological exposure limits noted for the ingredient(s).

**Exposure guidelines:** No exposure standards allocated.

**Appropriate engineering controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels. Attempts should be made to eliminate all contact with skin and eyes, and to limit inhalation exposure.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection:** Avoid contact with eyes. Wear chemical goggles and face shield.

**Hand protection:** Avoid contact with skin. Wear appropriate chemical resistant gloves. Request information on glove permeation properties from the glove supplier.

**Other:** Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

**Respiratory protection:** Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

**Thermal hazards:** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. When using, do not eat, drink or smoke. Keep away from food and drink. Avoid contact with the skin and the eyes. Handle in accordance with good industrial hygiene and safety practice.

#### Section 9. Physical and Chemical Properties

**Physical state:** Liquid.

**Form:** Liquid.

**Color:** Colorless.

**Odor:** Ammoniacal.

**Odor threshold:** Not available.

**pH:** Not available.

**Melting point/freezing point:** -76 - -68.8 °F (-60 - -56 °C)

**Initial boiling point and boiling range:** 377.6 °F (192 °C)

**Flash point:** 181.4 °F (83 °C) Tag Closed Cup

**Evaporation rate:** Not available.

**Flammability (solid, gas):** Not available.

#### Upper/lower flammability or explosive limits

**Flammability limit - lower (%):** Not available.

**Flammability limit - upper (%):** Not available.

**Explosive limit - lower (%):** Not available.

**Explosive limit - upper (%):** Not available.

**Vapor pressure:** 0.22 mm Hg at 20°C

**Vapor density:** Not available.

**Relative density (liquid):** Not available.

**Solubility (water):** Completely miscible

**Partition coefficient (n-octanol/water):** < 1

**Auto-ignition temperature:** 662 °F (350 °C) at 1020.3-1025.5 hPa

**Decomposition temperature:** Not available.

**Viscosity:** 3 mPa·s at 22.6°C

**Other information:** Combustible liquid.

**Density:** 0.86 g/cm<sup>3</sup> at 25°C

#### Section 10. Stability and Reactivity

**Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability:** Stable under recommended storage conditions. Risk of ignition.

**Possibility of hazardous reactions:** Not expected to occur.

**Conditions to avoid:** Avoid heat, sparks, open flames and other ignition sources.

**Incompatible materials:** Incompatible with strong acids and oxidizing agents.

**Hazardous decomposition products:** Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Decomposition of this product may emit oxides of nitrogen and carbon monoxide.

Section 11. Toxicological Information

**Inhalation:** Harmful if inhaled. Inhalation of vapors/fumes may cause respiratory irritation with throat discomfort, coughing or difficulty breathing. Inhaled corrosive substances can lead to a toxic edema of the lungs.

**Skin contact:** Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Harmful in contact with skin.

**Eye contact:** Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Permanent eye damage including blindness could result.

**Ingestion:** Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

**Symptoms related to the physical, chemical and toxicological characteristics:** See information on likely routes of exposure.

**Information on toxicological effects**

**Acute toxicity:** Harmful by inhalation, in contact with skin and if swallowed.

**Acute**

**Dermal**

**LD50:** Rabbit 1870 mg/kg

**Inhalation Mist**

**LC50:** Rat 4.9 mg/L/1h

**Oral**

**LD50:** Rat 1170 mg/kg

**Skin corrosion/irritation:** Causes severe skin burns.

**Serious eye damage/eye irritation:** Corrosive to the eyes and may cause severe damage including blindness.

**Respiratory sensitization:** Due to lack of data the classification is not possible.

**Skin sensitization:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Old not show mutagenic effects in animal experiments.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - single exposure:** Respiratory tract irritation.

**Specific target organ toxicity - repeated exposure:** Based on available data, the



classification criteria are not met.

**Aspiration hazard:** Due to lack of data the classification is not possible.

**Chronic effects:** Based on available data, the classification criteria are not met.

#### Section 12. Ecological Information

**Ecotoxicity:** Harmful to aquatic organisms.

##### **Aquatic**

**Algae:** EC50 > 100 mg/L, 72 Hours

**Crustacea:** EC50 Daphnia 19.8 mg/L, 48 Hours

**Fish:** 1825 mg/L

**Persistence and degradability:** Readily biodegradable.

**Bioaccumulative potential:** No data available for this product.

**Mobility in soil:** No data available.

**Other adverse effects:** None known.

#### Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

#### Section 14. Transport Information

##### **TDG**

**UN number:** UN2735

**UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (2-METHYLPENTAMETHYLENEDIAMINE)

**Class:** 8

**Subsidiary risk:** -

**Packing group:** I

**Environmental hazards:** No

##### **IATA**

**UN number:** UN2735

**UN proper shipping name:** Amines, Liquid, Corrosive, N.O.S. (2-METHYLPENTAMETHYLENEDIAMINE)

**Class:** 8

**Packing group:** I

**Environmental hazards:** No

##### **IMDG**

**UN number:** UN2735

**UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (2-



METHYLPENTAMETHYLENEDIAMINE)

**Class:** 8

**Subsidiary risk:** -

**Packing group:** I

**Marine pollutant:** No

**EmS:** F-E, S-B

#### DOT

**UN number:** UN2735

**UN proper shipping name:** Amines, Liquid, Corrosive, N.O.S. (2-METHYLPENTAMETHYLENEDIAMINE)

**Class:** 8

**Packing group:** I

**Marine pollutant:** No

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not available.

#### Section 15. Regulatory Information

**Canadian regulations:** All components are listed on the DSL or are not required to be listed on the DSL. This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

**Controlled Drugs and Substances Act:** Not regulated.

**Export Control List (CEPA 1999, Schedule 3):** Not listed.

**Greenhouse Gases:** Not listed.

**Precursor Control Regulations:** Not regulated.

#### International regulations

**Stockholm Convention:** Not applicable.

**Rotterdam Convention:** Not applicable.

**Kyoto protocol:** Not applicable.

**Montreal Protocol:** Not applicable.

**Basel Convention:** Not applicable.

#### International Inventories

**Australia:** Australian Inventory of Chemical Substances (AICS). Yes

**Canada:** Domestic Substances List (DSL). Yes

**Canada:** Non-Domestic Substances List (NDSL). No

**China:** Inventory of Existing Chemical Substances in China (IECSC): Yes

**Europe:** European Inventory of Existing Commercial Chemical Substances (EINECS). Yes

**Europe:** European List of Notified Chemical Substances (ELINCS). No

**Japan:** Inventory of Existing and New Chemical Substances (ENCS). Yes





**Korea:** Existing Chemicals List (ECL). Yes

**Philippines:** Philippine Inventory of Chemicals and Chemical Substances (PICCS). Yes

**United States & Puerto Rico:** Toxic Substances Control Act (TSCA) Inventory. Yes

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 11/2/2017

