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| --- | --- |
| Metro Welding Supply Corp. logo | Safety Data SheetMonomethylamine |
|  |

# Section 1: Product and Company Identification

**Metro Welding Supply Corp.**

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http://www.metrowelding.com/

Product Code: Monomethylamine

# Section 2: Hazards Identification



**Danger**

## Hazard Classification:

Acute Dermal Toxicity (Category 2)

Acute Gas Inhale Toxicity (Category 3)

Acute Oral Toxicity (Category 3)

Aspiration Hazard (Category 1)

Eye Effects (Category 1)

Flammable (Category 1)

Flammable Aerosol (Category 1)

Gases Under Pressure

Skin Corrosion (Category 2)

## Hazard Statements:

Causes serious eye damage

Causes skin irritation

Contains gas under pressure; may explode if heated

Extremely flammable aerosol

Extremely flammable gas

Fatal in contact with skin

May be fatal if swallowed and enters airways

Toxic if inhaled

Toxic if swallowed

## Precautionary Statements

**Prevention:**

Wash thoroughly after handling.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

[In case of inadequate ventilation] wear respiratory protection.

Do not get in eyes, on skin, or on clothing.

Use only outdoors or in a well-ventilated area.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Avoid breathing dust/fume/gas/mist/ vapors/spray.

Pressurized container: Do not pierce or burn, even after use.

Do not spray on an open flame or other ignition source.

**Response:**

Eliminate all ignition sources if safe to do so.

Immediately call a poison center or doctor.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Do NOT induce vomiting.

Take off immediately all contaminated clothing and wash it before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Wash with plenty of water

If inhaled: Remove person to fresh air and keep comfortable for breathing.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.

Protect from sunlight.

Store locked up.

Do not expose to temperatures exceeding 50C/122F.

**Disposal:**

Dispose of contents and/or container in accordance with applicable regulations.

# Section 3: Composition/Information on Ingredients

| CAS # |
| --- |
| 74-89-5 |

| Chemical Substance | Chemical Family | Trade Names |
| --- | --- | --- |
| METHYLAMINE, ANHYDROUS | amines, aliphatic | MONOMETHYLAMINE; CARBINAMINE; AMINOMETHANE; METHANAMINE; M-223; MMA; METHYLAMINE; UN 1061; METHYLAMINE, GAS; ANHYDROUS METHYLAMINE; CH5N |

# Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
| --- | --- | --- | --- | --- |
| Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). For burns, cover affected area securely with sterile, dry, loose-fitting dressing. Get medical attention. | Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | DO NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. For skin contact, consider dilute acidic solution. For ingestion, consider esophagoscopy. Avoid gastric lavage. |

# Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
| --- | --- | --- |
| Regular dry chemical Large fires: Use regular foam or flood with fine water spray. avoid carbon dioxide | Nitrogen oxides, ammonia, hydrogen cyanide, nitriles, isocyanates, nitrosamines, carbon monoxide, carbon dioxide and other irritating and toxic fumes | * Any supplied-air respirator with a full facepiece. Use chemical protective suit.
* Any supplied-air respirator with a full facepiece. Use chemical protective suit.
 |

# Section 6: Accidental Release Measures

| Personal Precautions | Environmental Precautions | Methods for Containment |
| --- | --- | --- |
| Keep unnecessary people away, isolate hazard area and deny entry.  | Avoid heat, flames, sparks and other sources of ignition.  | Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.  |

| Methods for Cleanup | Other Information |
| --- | --- |
| Collect runoff for disposal as potential hazardous waste. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible material. Add dilute acid. Cover with absorbent sheets, spill-control pads or pillows. Neutralize. Collect with absorbent into suitable container. Add a reducing agent. Collect spilled material using mechanical equipment. | Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). |

# Section 7: Handling and Storage

| Handling | Storage |
| --- | --- |
| Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Inside storage: Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. |  Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances. |

# Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines |
| --- |
| METHYLAMINE, ANHYDROUS: METHYLAMINE: 10 ppm (12 mg/m3) OSHA TWA 5 ppm ACGIH TWA 15 ppm ACGIH STEL 10 ppm (12 mg/m3) NIOSH recommended TWA 10 hour(s) |

## Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection | Skin Protection | Respiratory Protection |
| --- | --- | --- |
| Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. | Wear appropriate chemical resistant clothing. | Any supplied-air respirator with a full facepiece. Use chemical protective suit. |

## General Hygiene considerations

* Avoid breathing vapor or mist
* Avoid contact with eyes and skin
* Wash thoroughly after handling and before eating or drinking

# Section 9: Physical and Chemical Properties

| Physical State | Appearance | Color | Change in Appearance | Physical Form | Odor | Taste |
| --- | --- | --- | --- | --- | --- | --- |
| Gas | Clear | Colorless | N/A | Gas | Ammonia odor | N/A |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
| --- | --- | --- | --- | --- | --- |
|  -32 F (-0 C) TOC | Not available | Not available | 806 F (430 C) | 0.207 | 0.049 |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | pH | Odor Threshold | Evaporation Rate | Viscosity |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 F (-6 C) | -137 F (-94 C) | 2250 mmHg @ 20 C | 1.08 (Air=1) | Not applicable | 108% @ 25 C | Basic | 0.02 ppm | >1 (butyl acetate=1) | 0.00666 cP @ 25 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
| --- | --- | --- | --- | --- | --- | --- |
| 31.06 | C-H3-N-H2 | 1.302 g/L @ 20 C | Not available | Not available | Not applicable | Soluble: Alcohol, ether, acetone, benzene |

# Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
| --- | --- | --- |
| Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Acids, metals, halogens, combustible materials, oxidizing materials, halogenating agents, epoxides, carbon dioxide |

| Hazardous Decomposition Products | Possibility of Hazardous Reactions |
| --- | --- |
| Oxides of carbon, nitrogen | Will not polymerize. |

# Section 11: Toxicology Information

## Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
| --- | --- | --- |
| 100 mg/kg oral-rat LD50 | Irritation : : 100 mg open skin-guinea pig severe | Irritation (possibly severe), nausea, difficulty breathing, headache, lung congestion, convulsions |

| Eye Irritation | Skin Irritation | Sensitization |
| --- | --- | --- |
| Irritation (possibly severe), tearing, blindness | Irritation (possibly severe), allergic reactions, nausea, headache | Harmful if inhaled, respiratory tract burns, skin burns, eye burns, mucous membrane burns, allergic reactions |

## Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
| --- | --- | --- | --- |
| Not available | Available. | Not available | No data |

# Section 12: Ecological Information

## Fate and Transport

|  |  |  |  |
| --- | --- | --- | --- |
| Eco toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
| Fish toxicity: 1000000 ug/L 48 hour(s) LC50 (Mortality) Medaka, high-eyes (Oryzias latipes) Invertibrate toxicity: 163000 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia magna)Algal toxicity: 3100 ug/L 96 hour(s) (Physiological) Green algae (Gloeotaenium loitlesbergerianu)Phyto toxicity: Not availableOther toxicity: Not available | Not available | 6910 ug/L 24 hour(s) BCF (Residue) Diatom (Cyclotella cryptica) 110 ug/L | Not available |

# Section 13: Disposal Considerations

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| --- |
| Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. |

# Section 14: Transportation Information

## U.S. DOT 49 CFR 172.101

| Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Methylamine, anhydrous | UN1061 | 2.1 | Not applicable | 2.1 | Forbidden | 150 kg | N/A |

## Canadian Transportation of Dangerous Goods

|  |  |  |  |
| --- | --- | --- | --- |
| Shipping Name | UN Number | Class | Packing Group / Risk Group |
| Methylamine, anhydrous | UN1061 | 2.1 | Not applicable |

# Section 15: Regulatory Information

## U.S. Regulations

|  |  |  |
| --- | --- | --- |
| CERCLA Sections | SARA 355.30 | SARA 355.40 |
| 100 LBS RQ | Not regulated. | Not regulated. |

## SARA 370.21

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Acute | Chronic | Fire | Reactive | Sudden Release |
| Yes  | Yes | Yes  | No | Yes |

## SARA 372.65

|  |
| --- |
| Not regulated. |

## OSHA Process Safety

|  |
| --- |
| 1000 LB TQ |

## State Regulations

|  |
| --- |
| CA Proposition 65 |
| Not regulated. |

## Canadian Regulations

|  |
| --- |
| WHMIS Classification |
| ABD1E |

## National Inventory Status

|  |  |  |
| --- | --- | --- |
| US Inventory (TSCA) | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
| Listed on inventory. | Not listed. | Not determined. |

# Section 16: Other Information

|  |
| --- |
| NFPA Rating |
| HEALTH=4 FIRE=4 REACTIVITY=0 |

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard