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| --- | --- |
| Metro Welding Supply Corp. logo | Safety Data Sheet  Ethylene |
|  |

# Section 1: Product and Company Identification

**Metro Welding Supply Corp.**

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Product Code: Ethylene

# Section 2: Hazards Identification



**Danger**

## Hazard Classification:

Acute Gas Inhale Toxicity (Category 1)

Aspiration Hazard (Category 1)

Eye Effects (Category 2.B)

Flammable (Category 1)

Flammable Aerosol (Category 1)

Gases Under Pressure

## Hazard Statements:

Causes eye irritation

Contains gas under pressure; may explode if heated

Extremely flammable aerosol

Extremely flammable gas

Fatal if inhaled

May be fatal if swallowed and enters airways

## Precautionary Statements

**Prevention:**

Wash thoroughly after handling.

[In case of inadequate ventilation] wear respiratory protection.

Do not breathe dust/fume/gas/mist/ vapors/spray..

Use only outdoors or in a well-ventilated area.

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

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.

Specific treatment is urgent.

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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 # |
| --- |
| 74-85-1 |

| Chemical Substance | Chemical Family | Trade Names |
| --- | --- | --- |
| ETHYLENE | hydrocarbons, aliphatic | ACETENE; ETHENE; ETHYLENE, COMPRESSED GAS; OLEFIANT GAS; BICARBURETTED HYDROGEN; UN 1962; C2H4 |

# Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
| --- | --- | --- | --- | --- |
| If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention. | Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | Do not induce vomiting. Seek immediate medical attention. Check for frostbite. Thaw frostbite slowly with lukewarm water. Avoid mouth-to-mouth contact by using a mouth shield or guard to perform artificial respiration. | 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. |

# Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
| --- | --- | --- |
| Carbon dioxide, regular dry chemical Large fires: Flood with fine water spray. | Carbon monoxide, carbon dioxide and toxic and irritating fumes | * Any self-contained breathing apparatus with a full facepiece. * Any self-contained breathing apparatus with a full facepiece. |

# Section 6: Accidental Release Measures

| Personal Precautions | Environmental Precautions | Methods for Containment |
| --- | --- | --- |
| Keep unnecessary people away, isolate hazard area and deny entry. Do not touch spilled material. Ventilate closed spaces before entering. | 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 |
| --- | --- |
| Avoid ignition sources. Evacuate area, contact emergency personnel. Use fine water spray. | None |

# Section 7: Handling and Storage

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

# Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines |
| --- |
| TLV-TWA: 200ppm Carcinogenicity Designation A4 (ACGIH) |

## Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection | Skin Protection | Respiratory Protection |
| --- | --- | --- |
| For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. | For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing. | Any self-contained breathing apparatus with a full facepiece. |

## 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 | Colorless | Colorless | N/A | Compressed gas | Sweet odor | Sweet taste |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
| --- | --- | --- | --- | --- | --- |
| Approximately -212.8 F (-136 C) (CC); extremely flammable gas | Not available | 281.84 (log = 2.45) (estimated from water solubility) | 842 F (450 C) | 0.36 | 0.027 |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | pH | Odor Threshold | Evaporation Rate | Viscosity |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| -155 F (-104 C) | -272 F (-169 C) | 760 mmHg @ -104 C | 0.978 @ 0 C; 0.969 @ 21.1 C (air = 1) | Not applicable | 0.226 | Not applicable | Wide range of reported values: 17 to 959 ppm. Acceptable values are: 270 ppm (310 mg/m3) (detection); 418 ppm (480 mg/m3) (recognition) | Not applicable | LIQUEFIED GAS: 0.16 mPa.s (0.16 centipoise) @ -100 C (18); 0.07 mPa.s (0.07 centipoise) @ 0 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
| --- | --- | --- | --- | --- | --- | --- |
| 28.05 | C-H2-C-H2 | 1.261 g/L @ 0 C | Not available | 100% | 1 | Soluble: Alcohol, ether, acetone, benzene |

# Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
| --- | --- | --- |
| May polymerize. Avoid storage and use above room temperature. | May polymerize. Avoid storage and use above room temperature. | Acids, metal salts, halogens, halo carbons, oxidizing materials, metals, peroxides, chlorine, aluminum chloride, nitrogen dioxide or ozone, copper, 5A molecular sieves |

| Hazardous Decomposition Products | Possibility of Hazardous Reactions |
| --- | --- |
| Carbon monoxide, carbon dioxide, hydrocarbons | Polymerizes with evolution of heat. Store in a cool, dry place. |

# Section 11: Toxicology Information

## Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
| --- | --- | --- |
| LC50 (inhalation, mouse) = 96 pph | Not available | Nausea, vomiting, symptoms of drunkenness, bluish skin color, suffocation, convulsions, coma |

| Eye Irritation | Skin Irritation | Sensitization |
| --- | --- | --- |
| Frostbite, blurred vision | Blisters, frostbite | Central nervous system depression, difficulty breathing, asphyxiant |

## Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
| --- | --- | --- | --- |
| IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen | Not available | Not available | No data |

# Section 12: Ecological Information

## Fate and Transport

|  |  |  |  |
| --- | --- | --- | --- |
| Eco toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
| Fish toxicity: 22000-25000 ug/L 1 day(s) LC100 (Mortality) Orangespotted sunfish (Lepomis humilis)  Invertibrate toxicity: Not available  Algal toxicity: Not available  Phyto toxicity: Lemon = 0.025-0.05; epinasty  Other toxicity: Tomato = 0.04-0.1 ppm/3-48 hours; leaf epinasty. | Relatively non-persistent in the environment. Moderately volatile from water. | Accumulates very little in the bodies of living organisms. | Leaches through the soil or the sediment at a slow rate. |

# 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. Hazardous Waste Number(s): D001. |

# 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 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Ethylene | UN1962 | 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 |
| Ethylene, compressed | UN1962 | 2.1 | Not applicable |

# Section 15: Regulatory Information

## U.S. Regulations

|  |  |  |
| --- | --- | --- |
| CERCLA Sections | SARA 355.30 | SARA 355.40 |
| Not regulated. | Not regulated. | Not regulated. |

## SARA 370.21

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

## SARA 372.65

|  |
| --- |
| ETHYLENE |

## OSHA Process Safety

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

## State Regulations

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

## Canadian Regulations

|  |
| --- |
| WHMIS Classification |
| A, B1, D2B |

## National Inventory Status

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

# Section 16: Other Information

|  |
| --- |
| NFPA Rating |
| HEALTH=4 FIRE=4 REACTIVITY=2 |

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