|  |  |
| --- | --- |
| Metro Welding Supply Corp. logo | Safety Data Sheet  Nitric Oxide |
|  |

# Section 1: Product and Company Identification

**Metro Welding Supply Corp.**

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Detroit, MI 48223
  
(313) 834-1660 [phone]
  
(313) 835-3562 [fax]
  
http://www.metrowelding.com/

Product Code: Nitric Oxide

# Section 2: Hazards Identification



**Danger**

## Hazard Classification:

Corrosive To Metal (Category 1)

Gases Under Pressure

Oxidizing Gas (Category 1)

## Hazard Statements:

Contains gas under pressure; may explode if heated

May be corrosive to metals

May cause or intensify fire; oxidizer

## Precautionary Statements

**Prevention:**

Keep reduction valves/valves and fittings free from oil and grease.

Keep only in original container.

Keep and store away from clothing and combustible materials.

**Response:**

Absorb spillage to prevent material damage.

In case of fire: Stop leak if safe to do so.

**Storage:**

Protect from sunlight.

Store in well-ventilated place.

Store in corrosive resistant container with a resistant inner liner.

# Section 3: Composition/Information on Ingredients

| CAS # |
| --- |
| 10102-43-9 |

| Chemical Substance | Chemical Family | Trade Names |
| --- | --- | --- |
| NITRIC OXIDE | inorganic, gas | NITROGEN OXIDE (NO); NITRIC OXIDE (NO); NITRIC OXIDE TRIMER; NITROGEN MONOXIDE; NITROGEN MONOOXIDE; NITROGEN OXIDE (N4O4); NITROSYL RADICAL; RCRA P076; STCC 4920330; UN 1660; NO |

# Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
| --- | --- | --- | --- | --- |
| Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse. | Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | If a large amount is swallowed, get medical attention. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention. | None |

# Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
| --- | --- | --- |
| Water Do not use dry chemicals, carbon dioxide or halogenated extinguishing agents. Large fires: Flood with fine water spray. | Nitrogen oxides | * 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. Ventilate closed spaces before entering. Avoid contact with combustible materials. | Avoid contamination of water, soil, drains, and sewers. | Stop leak if possible without personal risk. |

| Methods for Cleanup | Other Information |
| --- | --- |
| Contact emergency personnel. | 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 Ceter 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. NFPA 430 Code for the Storage of Liquid and Solid Oxidizing Materials. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30). | Keep separated from incompatible substances. |

# Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines |
| --- |
| NITRIC OXIDE: 25 ppm (30 mg/m3) OSHA TWA 25 ppm ACGIH TWA 25 ppm (30 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. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. | Wear appropriate chemical resistant 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 | Clear | Colorless | N/A | Gas | Not available | N/A |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
| --- | --- | --- | --- | --- | --- |
| Not applicable | Not available | Not available | Nonflammable | Nonflammable | Nonflammable |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | pH | Odor Threshold | Evaporation Rate | Viscosity |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| -242 F (-152 C) | -263 F (-164 C) | 26000 mmHg @ 20 C | 1.036 (Air=1) | Not applicable | 7.3% @ 0 C | Not applicable | 0.3-1.0 ppm | Not applicable | 0.0188 cP @ 25 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
| --- | --- | --- | --- | --- | --- | --- |
| 30.01 | N-O | 1.3402 g/L | Not available | Not available | Not applicable | Soluble: Sulfuric acid, alcohol, ferrous sulfate solutions, carbon disulfide |

# Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
| --- | --- | --- |
| May react on contact with air. May react on contact with water. Releases toxic, corrosive, flammable or explosive gases. May explode during distillation or evaporation. | May react on contact with air. May react on contact with water. Releases toxic, corrosive, flammable or explosive gases. May explode during distillation or evaporation. | Metals, bases, metal oxides, reducing agents, combustible materials, halo carbons, oxidizing materials, halogens, metal carbide, metal salts |

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

# Section 11: Toxicology Information

## Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
| --- | --- | --- |
| LC50 Inhalation Gas. Rat 1068 mg/m³ 4 hours | Not available | Irritation, nausea, vomiting, stomach pain, chest pain, difficulty breathing, headache, dizziness, bluish skin color, lung congestion |

| Eye Irritation | Skin Irritation | Sensitization |
| --- | --- | --- |
| Irritation (possibly severe) | Irritation (possibly severe) | Harmful if inhaled, respiratory tract irritation, skin irritation, blood damage |

## 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: Not available  Invertibrate toxicity: Not available  Algal toxicity: Not available  Phyto toxicity: Not available  Other toxicity: Not available | Readily biodegrades | Not available | Not expected to leach through the soil or the sediment. |

# Section 13: Disposal Considerations

|  |
| --- |
| Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003. Dispose in accordance with all applicable regulations. |

# 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 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Nitric oxide, compressed | UN1660 | 2.3 | Not applicable | 2.3; 5.1;8 | Forbidden | Forbidden | Toxic-Inhalation Hazard Zone A |

## Canadian Transportation of Dangerous Goods

|  |  |  |  |
| --- | --- | --- | --- |
| Shipping Name | UN Number | Class | Packing Group / Risk Group |
| Nitric oxide, compressed | UN1660 | 2.3; 5.1; 8 | Not applicable |

# Section 15: Regulatory Information

## U.S. Regulations

|  |  |  |
| --- | --- | --- |
| CERCLA Sections | SARA 355.30 | SARA 355.40 |
| 10 LBS RQ | 100 LBS TPQ | 10 LBS RQ |

## SARA 370.21

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

## SARA 372.65

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

## OSHA Process Safety

|  |
| --- |
| 250 LBS TQ |

## State Regulations

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

## Canadian Regulations

|  |
| --- |
| WHMIS Classification |
| ACD1 |

## 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=0 REACTIVITY=1 |

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