SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ARDROX® AV 30 AEROSOL

Substance number : REL_10468027

Chemical usage : Cleaning Compound, Corrosion inhibitor

Manufacturer or supplier’s details
Company : Chemetall US, Inc.
Address : 675 Central Avenue
           New Providence NJ 07974
Telephone : (800) 526-4473
Telefax : (908) 464-4658
Emergency telephone no : CHEMTREC - 800-424-9300, 1-703-527-3887 (International)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Aerosol containing a compressed gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>light brown</td>
</tr>
<tr>
<td>Odour</td>
<td>solvent-like</td>
</tr>
<tr>
<td>Hazard Summary</td>
<td>Flammable/Combustible!</td>
</tr>
<tr>
<td></td>
<td>Harmful by inhalation and if swallowed.</td>
</tr>
<tr>
<td></td>
<td>Causes irritation of eyes and skin.</td>
</tr>
<tr>
<td></td>
<td>drying, irritation and dermatitis.</td>
</tr>
<tr>
<td></td>
<td>Contents under pressure.</td>
</tr>
</tbody>
</table>

GHS Classification

<table>
<thead>
<tr>
<th>Flammable aerosols</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gases under pressure</td>
<td>Compressed gas</td>
</tr>
<tr>
<td>Eye irritation</td>
<td>Category 2B</td>
</tr>
</tbody>
</table>

GHS Label element

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Pictogram]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statements</td>
<td>Flammable aerosol.</td>
</tr>
</tbody>
</table>
Contains gas under pressure; may explode if heated.
Causes eye irritation.

Precautionary statements:

Prevention:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Wash skin thoroughly after handling.

Response:
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Potential Health Effects

Inhalation: yes
Skin: yes
Ingestion: yes
Aggravated Medical Condition: None known.

Carcinogenicity:
IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH
Confirmed animal carcinogen with unknown relevance to humans
Distillates (petroleum), hydrotreated light 64742-47-8
Cyclohexanone 108-94-1

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: 
### Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-Tetraflouroethane</td>
<td>811-97-2</td>
<td>30 - 50</td>
</tr>
<tr>
<td>Hydrotreated heavy naptha</td>
<td>64742-48-9</td>
<td>10 - 20</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light</td>
<td>64742-47-8</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Hydrotreated middle distillate</td>
<td>64742-46-7</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Hydrodesulfurized heavy naphtha petroleum</td>
<td>64742-82-1</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>


Specific chemical identity of composition has been withheld as a trade secret.

Exact percentage of composition has been withheld as a trade secret.

### SECTION 4. FIRST AID MEASURES

**If inhaled**
- Remove to fresh air.
- If symptoms persist, call a physician.
- If breathing is irregular or stopped, administer artificial respiration.

**In case of skin contact**
- Wash off immediately with plenty of water for at least 15 minutes.
- Get medical attention if irritation develops and persists.

**In case of eye contact**
- Rinse immediately with plenty of water for at least 15 minutes.
- Keep eye wide open while rinsing.
- Seek medical advice.

**If swallowed**
- Rinse mouth.
- Drink plenty of water.
- Obtain medical attention.

### SECTION 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**
- Foam
- Carbon dioxide (CO2)
- Dry chemical

**Further information**
- Closed containers may explode when exposed to heat.
- Use water spray to cool unopened containers.

**Special protective equipment for firefighters**
- In the event of fire, wear self-contained breathing apparatus.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**
- Use personal protective equipment.
- Ensure adequate ventilation.
- Remove all sources of ignition.
Methods and materials for containment and cleaning up:
- Ventilate area.
- Remove all heat and ignition sources.
- Clean up with inert absorbant material.
- Keep in suitable, closed containers for disposal.
- Flush with plenty of water.

Additional advice:
- Never return spills in original containers for re-use.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling:
- Use only with adequate ventilation.
- Avoid breathing vapors, mist or gas.

Conditions for safe storage:
- Keep containers dry and tightly closed to avoid moisture absorption and contamination.
- Store indoors in a cool, well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep container out of sun and away from heat.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-Tetrafluoroethane</td>
<td>811-97-2</td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>US WEEL</td>
</tr>
<tr>
<td>Hydrotreated heavy naptha</td>
<td>64742-48-9</td>
<td>TWA</td>
<td>500 ppm 2,000.00000 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm 1,600.00000 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>TWA</td>
<td>50 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>STEL</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>150 ppm 540.00000 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td></td>
<td>100 ppm 360.00000 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td></td>
<td>100 ppm 360.00000 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td></td>
<td>150 ppm 540.00000 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light</td>
<td>64742-47-8</td>
<td>TWA</td>
<td>500 ppm 2,000.00000 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
</tbody>
</table>
### Personal protective equipment

**Respiratory protection**: If occupational exposure limits are exceeded, proper control and protection measures should be implemented.

**Hand protection**

**Remarks**: Impervious gloves

**Eye protection**: Safety glasses with side-shields

**Skin and body protection**: Rubber or plastic apron

**Hygiene measures**: Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Wear suitable protective clothing. Wash hands before breaks and immediately after handling the product. Provide adequate ventilation. Do not inhale fumes. Keep away from food and drink.

<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA</th>
<th>mg/m³</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated middle distillate 64742-46-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>500 ppm</td>
<td>2,000.000000 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>TWA (Mist)</td>
<td>5.000000 mg/m³</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>400 ppm 1,600.000000 mg/m³</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>Hydrodesulfurized heavy naphtha petroleum 64742-82-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>500 ppm 2,000.000000 mg/m³</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>400 ppm 1,600.000000 mg/m³</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>Cyclohexanone 108-94-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>50 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>25 ppm 100.000000 mg/m³</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>50 ppm 200.000000 mg/m³</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>25 ppm 100.000000 mg/m³</td>
<td>OSHA P0</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: Aerosol containing a compressed gas
- **Colour**: light brown
- **Odour**: solvent-like
- **pH**: no data available
- **Freezing point**: no data available
- **Boiling point/boiling range**: not applicable
- **Flash point**: no data available
- **Evaporation rate**: GLP: No information available.
- **Upper explosion limit**: 7.00 %(V)
- **Lower explosion limit**: 0.60 %(V)
- **Vapour pressure**: no data available
- **Relative density**: 0.89
- **Bulk density**: 7.41 lb/gal
- **Solubility(ies)**: insoluble
- **Partition coefficient: n-octanol/water**: no data available
- **Auto-ignition temperature**: No data available
- **Thermal decomposition**: No data available
- **Viscosity, dynamic**: No data available

SECTION 10. STABILITY AND REACTIVITY

- **Conditions to avoid**: Heat, flames and sparks. Exposure to sunlight.
- **Incompatible materials**: Strong oxidizing agents
- **Hazardous decomposition products**: Carbon monoxide
  Carbon dioxide (CO2)
  Fluorocarbons
  Sulphur oxides
SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:
Acute oral toxicity: Acute toxicity estimate: > 5,000.000000 mg/kg
Method: Calculation method

Components:
1,1,1,2-Tetrafluoroethane:
Acute inhalation toxicity: LC50 rat: 1500 g/m3
Exposure time: 4 h

Hydrotreated heavy naptha:
Acute oral toxicity: LD50 rat: > 10,000.000000 mg/kg
Acute dermal toxicity: LD50 rat: > 3,160.000000 mg/kg

1-Methoxy-2-propanol:
Acute oral toxicity: LD50 mouse: 11,700.000000 mg/kg
LD50 rat: 6,600.000000 mg/kg
LD50 rabbit: 5,700.000000 mg/kg
Acute inhalation toxicity: LC50 rat: 10000 ppm
Exposure time: 5 h
Acute dermal toxicity: LD50 rabbit: 13,000.000000 mg/kg

Distillates (petroleum), hydrotreated light:
Acute oral toxicity: LD50 rat: 5,000.000000 mg/kg

Hydrotreated middle distillate:
Acute oral toxicity: LD50 rat: 7,400.000000 mg/kg
Acute dermal toxicity: LD50 rabbit: > 2,000.000000 mg/kg

Hydrodesulfurized heavy naptha petroleum:
Acute oral toxicity: LD50 rat: > 5,000.000000 mg/kg
Acute dermal toxicity: LD50 rabbit: > 3,160.000000 mg/kg

Skin corrosion/irritation

Components:
Distillates (petroleum), hydrotreated light:
Result: Mild skin irritation
Serious eye damage/eye irritation

**Components:**

Hydrotreated heavy naptha:
Result: Mild eye irritation

Distillates (petroleum), hydrotreated light:
Result: Mild eye irritation

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
no data available

Reproductive toxicity
no data available

STOT - single exposure
no data available

STOT - repeated exposure
no data available

Aspiration toxicity
no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
no data available

Bioaccumulative potential

**Product:**
Partition coefficient: n-octanol/water
Remarks: no data available

**Components:**

1,1,1,2-Tetrafluoroethane:
Partition coefficient: n-octanol/water
log Pow: 1.06 (25 °C)
Method: OECD Test Guideline 107

Other adverse effects

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal methods
Waste from residues: Refer to all federal, provincial, state and local regulation prior to disposition of container and unused contents by reuse, recycle or disposal.

SECTION 14. TRANSPORT INFORMATION

International regulation
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

SECTION 15. REGULATORY INFORMATION

TSCA Status: All components of this material comply with US TSCA requirements.

OSHA Hazards: Compressed Gas, Mild skin irritant, Mild eye irritant

EPCRA - Emergency Planning and Community Right-to-Know Act

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>Threshold</th>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone</td>
<td>108-94-1</td>
<td>5,000</td>
<td>Sudden Release of Pressure Hazard</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards: Sudden Release of Pressure Hazard

SARA 302: SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

- Hydrotreated middle distillate: 64742-46-7

Pennsylvania Right To Know

- 1,1,1,2-Tetrafluoroethane: 811-97-2
- Hydrotreated heavy naptha: 64742-48-9
- Naphtha (petroleum) light steam-cracked: 68131-99-7
- Calcium dinonylnaphthalene sulfonate: 57855-77-3
- Distillates (petroleum), hydrotreated light: 64742-47-8
- Lanolin: 8006-54-0
SECTION 16. OTHER INFORMATION

Further information

Version 1.1
Revision Date 09/21/2015

Chemetall US, Inc. warrants that the products described herein will conform with its published specifications.

The products supplied by Chemetall and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Chemetall materials for their own particular purpose. Since buyer's conditions of use of products are beyond Chemetall's control, Chemetall does not warrant any recommendations and information for the use of such products. CHEMETALL DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.