Section 1. Chemical Product and Company Identification

Product name: ATOSOL 200 ND
Supplier: Total Petrochemicals & Refining USA, Inc.
P O Box 674411
Houston, TX  77267-4411
Chemical Family: Aromatic Hydrocarbon Mixture
CAS Registry Number: 64742-94-5
Synonym: Aromatic Hydrocarbon Mixture, Solvent naphtha, petroleum, heavy arom.
Formerly, FAS TX200ND

Section 2. Hazards Identification

Emergency Overview: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT, EYES AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: LUNGS, CENTRAL NERVOUS SYSTEM, DIGESTIVE SYSTEM, RESPIRATORY TRACT, SKIN, EYES, BLOOD, KIDNEYS, LIVER.

CONTAINS MATERIAL WHICH MAY CAUSE CANCER

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes: May cause eye irritation.
Skin: May cause skin irritation. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Inhalation: High vapor/mist concentration exposure can cause respiratory tract irritation, nausea, headaches, dizziness, and other central nervous system effects.
Ingestion: May cause irritation of gastrointestinal tract. If swallowed, aspiration into lungs may result in chemical pneumonitis an severe pulmonary injury.

Potential Chronic Health Effects: CARCINOGENIC EFFECTS:
Classified 2B (Possible for human.) by IARC [naphthalene].
Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP [naphthalene].
Classified A4 (Not classifiable for human or animal.) by ACGIH [naphthalene].

Medical Conditions Aggravated by Overexposure:
Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Overexposure /Signs/ Symptoms:
Prolonged or repeated exposure to this product can cause central nervous system effects and irritation to the eyes, skin, and respiratory tract. Frequent skin contact can remove skin oils, resulting in dermatitis.

See Toxicological Information (Section 11)
Section 3. Composition and Information on Ingredients

Occupational exposure limits, if available, are listed in Section 8.

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent naphtha (petroleum), heavy arom.</td>
<td>64742-94-5</td>
<td>100</td>
</tr>
<tr>
<td>2-methylnaphthalene</td>
<td>91-57-6</td>
<td>15 - 25</td>
</tr>
<tr>
<td>1-methylnaphthalene</td>
<td>90-12-0</td>
<td>4 - 10</td>
</tr>
<tr>
<td>naphthalene</td>
<td>91-20-3</td>
<td>0 - 1</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

Eye Contact: Flush with large amounts of water. If redness persists, get medical attention.

Skin Contact: If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible. Wash contaminated skin with soap and water.

Inhalation: Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.

Ingestion: DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Section 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Flammability of the Product</th>
<th>Combustible at high temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition and Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Points</td>
<td>CLOSED CUP: &gt;93.333°C (200°F). (Tagliabue.).</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>These products are carbon oxides (CO, CO2).</td>
</tr>
<tr>
<td>Fire Hazards in Presence of Various Substances</td>
<td>Combustible in presence of open flames and sparks at high temperature</td>
</tr>
<tr>
<td>Explosion Hazards in Presence of Various Substances</td>
<td>Risks of explosion of the product in presence of static discharge: Possible.</td>
</tr>
<tr>
<td>Fire Fighting Media and Instructions</td>
<td>SMALL FIRE: Use DRY chemical powder, halon, and CO2. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.</td>
</tr>
<tr>
<td>Protective Clothing (Fire)</td>
<td>Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear (Bunker gear).</td>
</tr>
</tbody>
</table>

Section 6. Accidental Release Measures

Small Spill and Leak: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill and Leak: Contain spill and safely stop the flow. Warn personnel to move away. Eliminate all sources of ignition. Ventilate. Absorb with an inert material (sand) and put the spilled material in an appropriate waste disposal. Do not allow any potentially contaminated water including rain water, runoff from fire fighting or spills to enter any waterway, sewer or drain. Prevent entry into sewers, basements or confined areas; dike if needed. Keep out of waterways.
Section 7. Handling and Storage

**Handling**
Keep away from heat.
Keep away from sources of ignition.
Ground all equipment containing material.
DO NOT ingest.
Do not breathe gas, fumes, vapor or spray.
In case of insufficient ventilation, wear suitable respiratory equipment.
If ingested, seek medical advice immediately and show the container or the label.
Avoid contact with skin and eyes.
Keep away from incompatibles such as oxidizing agents.

**Storage**
Keep container dry.
Keep in a cool place.
Ground all equipment containing material.
Keep container tightly closed.
Keep in a cool and well-ventilated area.
Materials should be stored away from extreme heat and away from strong oxidizing agents.

All efforts should be made to prevent any leaks or spills. Storage tanks containing should be engineered to prevent contact with water resources, as this material could contaminate the water resources. Surface spills can reach groundwater through porous soil or cracked surfaces. The storage tanks should be monitored regularly for leaks. Where spills or leaks are possible, a comprehensive response plan should be developed and implemented.

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Section 8. Exposure Controls/Personal Protection

**Engineering Controls**
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection**

| Eyes     | Safety glasses with side shields. |
| Body    | Coveralls.                        |
| Respiratory | Use a MSHA/NIOSH approved respirator or equivalent at high concentrations. |
| Hands    | Chemical resistant gloves if contact is possible. |
| Feet     | Chemical resistant gloves if contact is possible. |

**Protective Clothing (Pictograms)**

**Personal Protection in Case of a Large Spill**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product Name**
Solvent naphtha (petroleum), heavy arom.
2-methylnaphthalene
1-methylnaphthalene
naphthalene

**Exposure Limits**

- ACGIH TLV (United States, 2011). Absorbed through skin.
  TWA: 0.5 ppm 8 hours.

- ACGIH TLV (United States, 3/2012). Absorbed through skin.
  TWA: 0.5 ppm 8 hours.

- OSHA PEL (United States, 6/2010).
  TWA: 0.2 mg/m³ 8 hours. Form: Benzene soluble
  NIOSH REL (United States, 6/2009).
  TWA: 0.1 mg/m³ 10 hours. Form: Cyclohexane-extract

- ACGIH TLV (United States, 3/2012). Absorbed through skin.
  TWA: 10 ppm 8 hours.
  STEL: 15 ppm 15 minutes.
  TWA: 52 mg/m³ 8 hours.
  STEL: 79 mg/m³ 15 minutes.

- OSHA PEL (United States, 6/2010).
  TWA: 10 ppm 8 hours.
  TWA: 50 mg/m³ 8 hours.

- NIOSH REL (United States, 6/2009).
  TWA: 10 ppm 10 hours.
  TWA: 50 mg/m³ 10 hours.
  STEL: 15 ppm 15 minutes.
Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State and Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Light straw</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling/Condensation Point</td>
<td>232 to 279°C (449.6 to 534.2°F)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.996 (Water = 1)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;1 mm of Hg (@ 20°C)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>4.5 (Air = 1)</td>
</tr>
<tr>
<td>Volatility</td>
<td>100% (v/v).</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt;1 compared to Butyl acetate.</td>
</tr>
<tr>
<td>VOC</td>
<td>100 (%)</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Negligible</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

- Stability and Reactivity: The product is stable.
- Conditions of Instability: No additional remark.
- Incompatibility with Various Substances: Extremely reactive or incompatible with strong oxidizing agents.
- Hazardous Decomposition Products: Carbon Monoxide & Carbon Dioxide
- Hazardous Polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological Information

- Toxicity to Animals:
  - LD50: Not available.
  - LC50: Not available.
- Chronic Effects on Humans:
  - CARCINOGENIC EFFECTS: Classified 2B (Possible for humans.) by IARC [naphthalene].
  - Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP [naphthalene].
  - Classified A4 (Not classifiable for humans or animals.) by ACGIH [naphthalene].
  - May cause damage to the following organs: lungs, Central Nervous System (CNS), digestive system, upper respiratory tract, skin, eyes, kidneys, liver, blood.
- Other Toxic Effects on Humans: May be irritating to eyes, skin and respiratory system. Aspiration hazard if swallowed. Can enter lungs and cause damage.
- Special Remarks on Toxicity to Animals: NTP concluded based on inhalation studies that there is clear evidence of carcinogenic activity of naphthalene in rats based on increased incidences of respiratory epithelial adenoma (tissue tumors) and olfactory epithelial neuroblastoma (malignant tumors) of the nose.
Section 12. Ecological Information

Ecotoxicity
Not available.

Mobility
Constituents of this type of aromatic solvent are expected to partition between air, water, and soil.

Special Remarks on the Products of Biodegradation
Constituents of this type of aromatic solvent are expected to biodegrade.

Section 13. Disposal Considerations

Waste Information
Recover free liquid. Transfer to a safe disposal area in accordance with federal, state, and local regulations.

Consult your local or regional authorities.

Section 14. Transport Information (for domestic bulk shipments, non-bulk shipments may differ)

DOT Classification for Bulk Shipments (non bulk shipments may differ)
DOT CLASS 9: Miscellaneous Hazardous Material

Proper Shipping Name/Description
UN3082, Environmentally Hazardous Substances, liquid, n.o.s. (Aromatic Naphtha), 9, PGIII RQ (contains Naphthalene)

UN Number
UN3082

Packing Group
III

Marine Pollutant
Not listed in Appendix B to 49CFR172.101

Hazardous Substances Reportable Quantity
Naphthalene: 100 lbs

Special Provisions for Transport
Not applicable.

TDG Classification
Not available.

IMO/IMDG Classification
Not available.

ICAO/IATA Classification
Not available.

USCG Proper Shipping Name
Naphtha: Aromatic

Section 15. Regulatory Information

HCS Classification
Contains material which may cause cancer. Target organ effects

U.S. Federal Regulations
TSCA 4(a) final test rules: naphthalene
TSCA 8(a) PAIR: naphthalene
TSCA 8(a) CDR Exempt/Partial exemption: Partial exemption
United States inventory (TSCA 8b): All components are listed or exempted.
TSCA 12(b) annual export notification: naphthalene

SARA 302/304/311/312 extremely hazardous substances: To the best of our knowledge, there are no substances that would be at reportable levels for this regulation in this product.
SARA 302/304 emergency planning and notification: To the best of our knowledge, there are no substances that would be at reportable levels for this regulation in this product.
SARA 302/304/311/312 hazardous chemicals: solvent naphtha (petroleum), heavy arom.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: solvent naphtha (petroleum), heavy arom.: Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313 Supplier Notification

Total Petrochemicals & Refining USA, Inc.
This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372 - Table 372.65).

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td>91-20-3</td>
<td>0 - 1</td>
</tr>
</tbody>
</table>

Clean Water Act (CWA 307): naphthalene
Clean Water Act (CWA 311): naphthalene

International Regulations

WHMIS (Canada) Class D-2A: Material causing other toxic effects (Very toxic).

- CEPA Toxic substances: None of the components are listed.
- Canadian ARET: None of the components are listed.
- Canadian NPRI: The following components are listed: Heavy aromatic solvent naphtha
- Alberta Designated Substances: None of the components are listed.
- Ontario Designated Substances: None of the components are listed.
- Quebec Designated Substances: None of the components are listed.

EINECS 265-198-5

DSCL (EEC) R65- Harmful: may cause lung damage if swallowed.

CEPA DSL/NDSL All components are listed or exempted.

International Lists

- Australia inventory (AICS): All components are listed or exempted.
- China inventory (IECSC): All components are listed or exempted.
- Japan inventory: Not determined.
- Korea inventory: All components are listed or exempted.
- Malaysia Inventory (EHS Register): All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
- Philippines inventory (PICCS): All components are listed or exempted.
- Taiwan inventory (CSNN): Not determined.

State Regulations

- Massachusetts Substances: The following components are listed: 1-METHYLNAPHTHALENE
- New Jersey Hazardous Substances: The following components are listed: NAPHTHALENE; MOTH FLAKES
- New York Acutely Hazardous Substances: The following components are listed: Naphthalene
- Pennsylvania RTK Hazardous Substances: The following components are listed: NAPHTHALENE, 1-METHYL-; NAPHTHALENE

WARNING: This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16. Other Information**

Label requirements

MAY BE HARMFUL IF INHALED.
MAY CAUSE RESPIRATORY TRACT, EYES AND SKIN IRRITATION.
MAY BE HARMFUL IF SWALLOWED.
ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: LUNGS, CENTRAL NERVOUS SYSTEM, DIGESTIVE SYSTEM, RESPIRATORY TRACT, SKIN, EYES, BLOOD, KIDNEYS, LIVER.

CONTAINS MATERIAL WHICH MAY CAUSE CANCER

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Total Petrochemicals & Refining USA, Inc.
Chemtrec:
(800) 424-9300

Total Petrochemicals & Refining USA, Inc.:
(800) 322-3462

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To obtain an electronic copy of this MSDS, please email: product.stewardship@total.com.