



**Product Summary**  
**Atosol Aromatic Solvents**  
**Total Petrochemicals & Refining USA, Inc.**  
**May 2017**

**Product Overview**

Atosol<sup>†</sup> Aromatic Solvents (Atosols) are complex mixtures of aromatic hydrocarbons. They are sold in bulk for use in downhole applications in oilfields, as effective solvents in industrial applications for chemical processing, as resin blendstocks for foundries, as cleaning solvents in industrial applications, and in specialty paints and pesticides. Atosols are generally low to moderate in toxicity, and can be safely handled using standard industrial hygiene, storage, and transportation practices.

**Product Identity**

**Atosol 100**

Solvent naphtha (petroleum), light arom.  
CAS<sup>‡</sup> Registry Number 64742-95-6

Atosol 100 is a complex mixture of aromatic hydrocarbons which is predominantly composed of C8–C10 aromatics in the form of alkylbenzenes from distillation of petroleum. More specifically, it contains significant amounts of trimethylbenzenes and methyl-ethylbenzenes. It contains less than 0.5 % ethylbenzene (CAS RN 100-41-4 ) and less than 0.1 % benzene (CAS RN 71-43-2) and naphthalene (CAS RN 91-20-3). This product may contain approximately 25 ppm BHT (CAS RN 128-37-0).

**Atosol 115**

Aromatic hydrocarbons, C9-11  
CAS Registry Number 70693-06-0

Atosol 115 is a complex mixture of aromatic hydrocarbons which is predominantly composed of C9–C11 aromatics in the form of alkylbenzenes from distillation of petroleum. More specifically, it contains significant amounts of trimethylbenzenes and methyl-ethylbenzenes. It contains less than 0.5 % ethylbenzene (CAS RN 100-41-4 ), less than 0.1 % benzene (CAS RN 71-43-2) and less than 1 % naphthalene (CAS RN 91-20-3). This product may contain approximately 25 ppm BHT (CAS RN 128-37-0).

**Atosol 150**

Solvent naphtha (petroleum), heavy arom.  
CAS Registry Number 64742-94-5

Atosol 150 is a complex mixture of aromatic hydrocarbons which is predominantly composed of C10–C12

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<sup>†</sup> The term “ATOSOL” is Total Petrochemicals & Refining USA, Inc.’s trademark for the aromatic solvents described in this Product Summary.

<sup>‡</sup> CAS Registry Number is a Registered Trademark of the American Chemical Society.



aromatics in the form of alkylbenzenes and alkyl naphthalenes from distillation of petroleum. More specifically, it contains significant amounts of dimethyl-ethylbenzenes and tetramethylbenzenes. It also contains naphthalene (CAS RN 91-20-3) at levels typically less than 10 %. It contains less than 0.1 % ethylbenzene (CAS RN 100-41-4 ) and benzene (CAS RN 71-43-2). This product may contain approximately 25 ppm BHT (CAS RN 128-37-0).

### **Atosol 200AN**

Distillates, petroleum, catalytic reformer fractionator residue, low-boiling  
CAS Registry Number 68477-31-6

Atosol 200AN is a complex mixture of aromatic hydrocarbons which is predominantly composed of C11–C15 aromatics in the form of alkyl naphthalenes from distillation of petroleum. More specifically, it contains significant amounts of methyl naphthalenes. It contains less than 10 % naphthalene (CAS RN 91-20-3). It contains less than 0.1 % ethylbenzene (CAS RN 100-41-4 ) and benzene (CAS RN 71-43-2). This product may contain approximately 20 ppm BHT (CAS RN 128-37-0).

### **Atosol 200ND**

Solvent naphtha (petroleum), heavy arom.  
CAS Registry Number 64742-94-5

Atosol 200 ND is a complex mixture of aromatic hydrocarbons which is predominantly composed of C11–C15 aromatics in the form of alkyl naphthalenes from distillation of petroleum. More specifically, it contains significant amounts of methyl naphthalenes. It is a naphthalene (CAS RN 91-20-3) depleted solvent, containing less than 1 % naphthalene. It contains less than 0.1 % ethylbenzene (CAS RN 100-41-4 ) and benzene (CAS RN 71-43-2). This product may contain approximately 20 ppm BHT (CAS RN 128-37-0).

### **Physical/chemical properties**

	<b>Atosol 100</b>	<b>Atosol 115</b>	<b>Atosol 150</b>	<b>Atosol 200AN</b>	<b>Atosol 200ND</b>
<b>Specific Gravity</b>	0.86 - 0.88	0.86 - 0.88	0.89 – 0.91	0.97-1.01	0.97-1.01
<b>Appearance</b>	Colorless liquid	Colorless liquid	Colorless liquid	Straw colored liquid	Straw colored liquid
<b>Boiling Point Range</b>	149 - 177°C 300 - 350°F	145 to 185°C 293 to 365°F	177 - 224°C 350 - 435°F	217 - 296°C 423 - 565°F	232 - 296°C 450 - 565°F
<b>Flash Point</b>	≥ 40°C ≥ 104°F	≥ 40°C ≥ 104°F	≥ 61°C ≥ 142°F	> 93.3°C > 200°F	> 93.3°C > 200°F
<b>Vapor Pressure @ 20°C</b>	< 5 mm Hg	< 5 mm Hg	< 1mm Hg	< 1mm Hg	< 1mm Hg
<b>Solubility in water</b>	Negligible	Negligible	Negligible	Negligible	Negligible
<b>OSHA GHS Flammability Classification</b>	Flammable liquids Cat. 3	Flammable liquids Cat. 3	Flammable liquids Cat. 4	-	-
<b>DOT Flammability</b>	Combustible Liquid	Combustible Liquid	Combustible Liquid	-	-

### **Health Effects**

The GHS health hazard classifications based on OSHA Hazard Communication regulations (29 CFR 1910.1200) <sup>§</sup> for Atosol aromatic solvents are provided in the table below. For additional information including GHS Hazards statement, Precautionary statements, and information on Specific Target Organ Toxicity (STOT), the Safety Data Sheet for the specific product should be consulted.

<sup>§</sup> OSHA does not provide GHS hazard classifications for a chemical or a substance. OSHA places the responsibility of GHS hazard classification upon the manufacturers (or importers) of the chemical (see 21 CFR 1910.1200(d)). Therefore, GHS hazard classification in the United States may differ from manufacturer (or importer) to manufacturer (or importer). Additionally, these GHS hazard classifications may differ from other internationally established GHS classifications, such as those in the Europe Union or Japan.

The provided GHS classifications are current as of the date of this document. However, the GHS classifications are subject to change as new information is obtained. The user should always refer to the most recent product SDS to confirm the GHS classifications.

## OSHA GHS Health Hazard Classifications of Atosol Solvents

	Atosol 100	Atosol 115	Atosol 150	Atosol 200AN	Atosol 200ND
Aspiration hazard	Cat. 1	Cat. 1	Cat. 1	Cat. 1	Cat. 1
Skin corrosion/irritation	Cat. 2	Cat. 2	-	-	-
Serious eye damage/eye irritation	Cat. 2A	Cat. 2A	-	-	-
Carcinogenicity	Cat. 2	Cat. 2	Cat. 2	Cat. 2	Cat. 2
STOT (Single Exposure) Narcotic Effects	Cat. 3	Cat. 3	Cat. 3	Cat. 3	Cat. 3
STOT (Single Exposure) Respiratory irritation	Cat. 3	Cat. 3	Cat. 3	Cat. 3	Cat. 3
STOT (Single Exposure)	Cat. 1		Cat. 1/2	Cat. 1/2	Cat. 1/2
STOT (Repeated Exposure)	Cat. 1	Cat. 2	Cat. 1/2	Cat. 1/2	Cat. 1/2

Aromatic hydrocarbon solvents are aspiration hazards. If aspirated into the lungs due to ingestion or from vomiting, chemical pneumonitis (inflammation of lung tissue) or pulmonary edema (abnormal buildup of fluid in the air spaces of the lungs) may develop. These are serious, potentially life threatening, medical conditions which require immediate and proper medical attention.

These solvents have low to moderate toxicity by ingestion, skin contact and inhalation. Exposure to these solvents may cause respiratory tract, eyes and skin irritation. Inhalation of high vapor concentrations may cause central nervous system (CNS) depression resulting in drowsiness and dizziness.

### Acute Toxicity Values

	Atosol 100*	Atosol 115*	Atosol 150	Atosol 200AN*	Atosol 200ND*
LD50 oral (rat) mg/kg	> 5000	> 5000	> 5000	> 5000	> 5000
LD50 dermal (rabbit/rat) mg/kg	> 2000	> 2000	> 2000	> 2000	> 2000
LC50 inhalation (rat) mg/L/4h	> 5.2	> 5.2	> 5	> 5	> 5
LC50 inhalation (rat) ppm/4h	3400	-	-	-	-

\*Some acute toxicity values may be based on the GHS bridging principle: "Substantially similar mixtures".

To the best of our knowledge, exposure to these substances shows no evidence of causing harm to reproduction or the developing fetus, and no evidence of causing adverse effects on genetic material. Effects from repeated exposure to aromatic hydrocarbon solvents may have effects on the eyes, nervous system, and respiratory system. It is likely that, similar to a single exposure, repeated skin exposure may cause skin irritation and/or other skin effects.

Some Atosol products may contain naphthalene at levels greater than 0.1 %. Exposure to naphthalene may cause destruction of red blood cells, anemia, and cataracts. Different governmental and non-governmental agencies rate the cancer causing potential (carcinogenicity) of chemicals. Some carcinogenic ratings for naphthalene include:

Agency	Naphthalene Carcinogenicity
International Agency for Research on Cancer (IARC)	Possibly carcinogenic to humans
National Toxicity Program (NTP)	Reasonably anticipated to be human carcinogens
American Conference for Governmental Industrial Hygienists (ACGIH)	Not classifiable for humans or animals.

This results in an OSHA GHS Classification for Carcinogenicity of 2 for Atosols with a naphthalene concentration of greater than 0.1%.

## **Environmental Effects**

Atosol 100, Atosol 115, and Atosol 150 are DOT and IMDG Marine Pollutants because these products typically contain more than 10 % of components listed in the DOT Marine Pollutant table (21 CFR 172.101 Appendix B) and listed as Marine Pollutants in the IMDG Code Dangerous Good List.

The aromatic constituents that make up these solvents are expected partition between air, water, and soil and to biodegrade when released to the environment.

## **Storage and Handling**

Store and use away from heat, sparks, open flame or any other ignition source. Keep in a cool and well-ventilated area. Storage tanks 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. Facilities which store these products should have a comprehensive response plan for spills or leaks.

Use only in a well ventilated area. If ventilation is inadequate, use respiratory protection.

Atosol products, like all other hydrocarbon liquids, should never be siphoned by mouth.

Static charges can accumulate during shipping, unloading, pouring, or transferring operations. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

## **Potential for Exposure**

### **Environmental Exposure**

Atosols are relatively easy to handle and to contain, reducing the chance for release to the environment. However, in the event of a spill, data has shown that the components that make up Atosols will degrade rapidly and not persist in the environment. Aromatic hydrocarbon solvents are moderately toxic to freshwater fish, invertebrates and algae. Storage tanks containing these solvents 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.

Efforts should be made to prevent any leaks or spills of these solvents. Where spills or leaks are possible, a comprehensive response plan should be developed and implemented.

To prevent environmental exposure adequate care must be taken in the transfer of the bulk products and in the design of transfer and storage facilities. Workers must be appropriately trained to properly handle, load and transport the product.

### **Industrial Worker Exposure:**

Ventilation must be provided for industrial workers in order for exposure levels to stay below established standards. Workers should wear safety glasses with side shields, fire retardant clothing covering the entire body, and chemical resistant gloves, as appropriate for the work being done. If handling large volumes, splash goggles may be needed. Change gloves frequently to limit potential exposure due to glove "breakthrough". If inhalation exposure above industry or regulatory standards is possible, an appropriate respirator must be worn.

### **Consumer/General Public Exposure:**

Total Petrochemicals & Refining USA, Inc. (TPRI) does not directly sell Atosol products for use by consumers. It may be possible that TPRI customers may formulate these solvents into consumer products. In such cases, TPRI's customers are responsible for appropriately considering and providing the information TPRI provides in the Safety Data Sheets for Atosol products and for their products being safe for their intended uses. Potential exposure to

these solvents used in consumer products can be minimized by using these consumer products only with adequate ventilation and wearing chemical resistant gloves. Gloves should be changed frequently.

### **Additional Information**

Additional information on the handling and safe use of solvents can be obtained from the European Solvents Industry Group Internet website (<http://www.esig.org/>) and the Solvents Industry Association Internet website (<http://www.sia-uk.org.uk>).

EPA's Office of Pollution Prevention and Toxics reviewed some Atosol solvents for use in food-use pesticides products and found no concerns. For addition information on this or for commercial inquires regarding our Atosol solvents, send an email to: [rc.hou-solvents-customer-service-mailbox@total.com](mailto:rc.hou-solvents-customer-service-mailbox@total.com).

### **Product Stewardship Contact Information:**

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### **General References**

1. *SIDS DOSSIER ON THE HPV CHEMICAL Predominant Alkyl naphthalene (bicyclic) Hydrocarbon Solvents, Part of the C10-12 Aromatic Hydrocarbon Solvents*, International Hydrocarbon Solvents Consortium, DRAFT – EPA Review Draft, November 1, 2003.
2. *SIDS DOSSIER ON THE HPV CHEMICAL Predominant Alkylbenzene (monocyclic) Hydrocarbon Solvents, Part of the C10-12 Aromatic Hydrocarbon Solvents*, International Hydrocarbon Solvents Consortium, DRAFT – EPA Review Draft, November 1, 2003.
3. *C10-C12 Aromatics Hydrocarbon Solvents Category Test Plan*, International Hydrocarbon Solvents Consortium, Draft, July 7, 2005.
4. *Toxicological Profile For Naphthalene, 1-Methylnaphthalene, And 2-Methylnaphthalene*, U.S. Department Of Health And Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR), August 2005.
5. Wil Research Europe 500589, 500590, 500592, 500599, 500600, 500593, 892002, 892004, & 892005 Reports
6. Product Safety Labs 35569, 35570, 35571, 35580, 35581, & 35582 Reports
7. SDSs for Atosol 100, Atosol 115, Atosol 150, Atosol 200AN, Atosol 200ND

***NOTICE: This information is furnished in good faith by Total Petrochemicals & Refining USA, Inc. and provides general, non-specific information on the product reviewed. Therefore, Total Petrochemicals & Refining USA, Inc. shall not be liable for any damages resulting from use of or reliance upon the information provided in this document. Nothing contained in this document shall be construed as a recommendation. Total Petrochemicals & Refining USA, Inc. makes no representation or warranty of any kind, express or implied, as to the completeness, accuracy, quality or fitness for a particular purpose, of the information contained herein, and such implied warranties are specifically excluded. No license of any patent owned by Total Petrochemicals & Refining USA, Inc. or others is to be inferred.***