



**Material Safety Data Sheet**

**P.i. Performance Improver**

**Section 1. Product and company identification**

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|                                                       |                             |
|-------------------------------------------------------|-----------------------------|
| <b>Product name</b>                                   | <b>Code</b>                 |
| P.i. Performance Improver                             | API                         |
| <b>Material uses</b>                                  | <b>MSDS authored by</b>     |
| Fuel additive.                                        | AMSOIL INC.                 |
| <b>Supplier/Manufacturer</b>                          | <b>In case of emergency</b> |
| AMSOIL INC.<br>925 Tower Avenue<br>Superior, WI 54880 | CHEMTREC: (800) 424-9300    |

**Section 2. Hazards identification**

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Emergency overview

|                          |                                                                                                                                                                                                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Color</b>             | : Yellow. [Light]                                                                                                                                                                                                                                             |
| <b>Physical state</b>    | : Liquid. [Fluid.]                                                                                                                                                                                                                                            |
| <b>Odor</b>              | : Mild hydrocarbon.                                                                                                                                                                                                                                           |
| <b>Signal word</b>       | : WARNING!                                                                                                                                                                                                                                                    |
| <b>Hazard statements</b> | : COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN IRRITATION. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.                                                                                                                             |
| <b>Precautions</b>       | : Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not get in eyes. Avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling. |
| <b>OSHA/HCS status</b>   | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).                                                                                                                                                         |

Potential acute health effects

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| <b>Inhalation</b> | : No known significant effects or critical hazards.            |
| <b>Ingestion</b>  | : No known significant effects or critical hazards.            |
| <b>Skin</b>       | : Irritating to skin.                                          |
| <b>Eyes</b>       | : Severely irritating to eyes. Risk of serious damage to eyes. |

Potential chronic health effects

|                              |                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Chronic effects</b>       | : No known significant effects or critical hazards.                                                   |
| <b>Carcinogenicity</b>       | : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure. |
| <b>Mutagenicity</b>          | : No known significant effects or critical hazards.                                                   |
| <b>Teratogenicity</b>        | : No known significant effects or critical hazards.                                                   |
| <b>Developmental effects</b> | : No known significant effects or critical hazards.                                                   |
| <b>Fertility effects</b>     | : No known significant effects or critical hazards.                                                   |

Over-exposure signs/symptoms

|                   |                     |
|-------------------|---------------------|
| <b>Inhalation</b> | : No specific data. |
| <b>Ingestion</b>  | : No specific data. |

**Skin** : Adverse symptoms may include the following:  
irritation  
redness

**Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Medical conditions aggravated by over-exposure** : None known.

See toxicological information (Section 11)

## Section 3. Composition/information on ingredients

### United States

| Name                                        | CAS number              | %       |
|---------------------------------------------|-------------------------|---------|
| Solvent Mixture                             | 64742-47-8 / 64742-88-7 | 5 - 10  |
| Solvent naphtha (petroleum), heavy aromatic | 64742-94-5              | 1 - 5   |
| Naphthalene                                 | 91-20-3                 | 0.1 - 1 |

### Canada

| Name                                        | CAS number              | %       |
|---------------------------------------------|-------------------------|---------|
| Solvent Mixture                             | 64742-47-8 / 64742-88-7 | 5 - 10  |
| Solvent naphtha (petroleum), heavy aromatic | 64742-94-5              | 1 - 5   |
| Naphthalene                                 | 91-20-3                 | 0.1 - 1 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## Section 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids.
- Skin contact** : After contact with skin, wash immediately with plenty of soap and water. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## Section 5. Fire-fighting measures

- Flammability of the product** : Combustible liquid.
- Extinguishing media**
- Suitable** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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- Hazardous decomposition products** : No specific data.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

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- Personal precautions** : Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- Large spill** : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7. Handling and storage

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- Handling** : Put on appropriate personal protective equipment. Avoid contact with used product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. 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. Empty containers retain product residue and can be hazardous. Keep away from heat, sparks and flame. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### United States

| Ingredient      | Exposure limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solvent Mixture | <b>ACGIH TLV (United States, 2/2010). Absorbed through skin.</b><br>TWA: 200 mg/m <sup>3</sup> 8 hour(s).                                                                                                                                                                                                                                                                                                                                                                                      |
| Naphthalene     | <b>ACGIH TLV (United States, 2/2010).</b><br>STEL: 79 mg/m <sup>3</sup> 15 minute(s).<br>STEL: 15 ppm 15 minute(s).<br>TWA: 52 mg/m <sup>3</sup> 8 hour(s).<br>TWA: 10 ppm 8 hour(s).<br><b>NIOSH REL (United States, 6/2009).</b><br>STEL: 75 mg/m <sup>3</sup> 15 minute(s).<br>STEL: 15 ppm 15 minute(s).<br>TWA: 50 mg/m <sup>3</sup> 10 hour(s).<br>TWA: 10 ppm 10 hour(s).<br><b>OSHA PEL (United States, 6/2010).</b><br>TWA: 50 mg/m <sup>3</sup> 8 hour(s).<br>TWA: 10 ppm 8 hour(s). |

### Canada

| Occupational exposure limits |                 | TWA (8 hours) |                   |       | STEL (15 mins) |                   |       | Ceiling |                   |       |           |
|------------------------------|-----------------|---------------|-------------------|-------|----------------|-------------------|-------|---------|-------------------|-------|-----------|
| Ingredient                   | List name       | ppm           | mg/m <sup>3</sup> | Other | ppm            | mg/m <sup>3</sup> | Other | ppm     | mg/m <sup>3</sup> | Other | Notations |
| Solvent Mixture              | US ACGIH 2/2010 | -             | 200               | -     | -              | -                 | -     | -       | -                 | -     | [1]       |
| Naphthalene                  | AB 4/2009       | 10            | 52                | -     | 15             | 79                | -     | -       | -                 | -     | [1]       |
|                              | BC 9/2010       | 10            | -                 | -     | 15             | -                 | -     | -       | -                 | -     | [1]       |
|                              | ON 7/2010       | 10            | 52                | -     | 15             | 79                | -     | -       | -                 | -     |           |
|                              | QC 6/2008       | 10            | 52                | -     | 15             | 79                | -     | -       | -                 | -     |           |

[1]Absorbed through skin.

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.
- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Respiratory** : Not required under normal conditions of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure an MSHA/NIOSH-approved respirator or equivalent is used.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Recommended: Coveralls.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## Section 9. Physical and chemical properties

|                         |                                                         |                                  |                     |
|-------------------------|---------------------------------------------------------|----------------------------------|---------------------|
| <b>Physical state</b>   | : Liquid. [Fluid.]                                      | <b>Odor</b>                      | : Mild hydrocarbon. |
| <b>Color</b>            | : Yellow. [Light]                                       | <b>pH</b>                        | : Not available.    |
| <b>Flash point</b>      | : Closed cup: 72°C (161.6°F) [Pensky-Martens.]          | <b>Auto-ignition temperature</b> | : Not available.    |
| <b>Flammable limits</b> | : Not available.                                        | <b>Melting point/ Pour point</b> | : -31°C (-23.8°F)   |
| <b>Boiling point</b>    | : Not available.                                        | <b>Vapor pressure</b>            | : Not available.    |
| <b>Relative density</b> | : 0.8767                                                | <b>Vapor density</b>             | : Not available.    |
| <b>Volatility</b>       | : Not available.                                        | <b>Evaporation rate</b>          | : Not available.    |
| <b>Viscosity</b>        | : Kinematic: 0.106 cm <sup>2</sup> /s (10.6 cSt) (40°C) | <b>Solubility</b>                | : Not available.    |

## Section 10. Stability and reactivity

|                                           |                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chemical stability</b>                 | : The product is stable.                                                                                                                                                  |
| <b>Conditions to avoid</b>                | : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| <b>Materials to avoid</b>                 | : Reactive or incompatible with the following materials: oxidizing materials.                                                                                             |
| <b>Hazardous decomposition products</b>   | : Under normal conditions of storage and use, hazardous decomposition products should not be produced.                                                                    |
| <b>Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.                                                                                         |
| <b>Hazardous polymerization</b>           | : Under normal conditions of storage and use, hazardous polymerization will not occur.                                                                                    |

## Section 11. Toxicological information

### Acute toxicity

| Product/ingredient name                     | Result                | Species | Dose                   | Exposure |
|---------------------------------------------|-----------------------|---------|------------------------|----------|
| Solvent naphtha (petroleum), heavy aromatic | LC50 Inhalation Vapor | Rat     | >590 mg/m <sup>3</sup> | 4 hours  |
| Naphthalene                                 | LD50 Dermal           | Rabbit  | >20 g/kg               | -        |
|                                             | LD50 Dermal           | Rat     | >2500 mg/kg            | -        |
|                                             | LD50 Oral             | Rat     | 490 mg/kg              | -        |

### Chronic toxicity

#### Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP      | OSHA |
|-------------------------|-------|------|-----|-------|----------|------|
| Solvent Mixture         | A3    | -    | -   | -     | -        | -    |
| Naphthalene             | A4    | 2B   | -   | None. | Possible | -    |

## Section 12. Ecological information

**Environmental effects** : Not established

### Aquatic ecotoxicity

| Product/ingredient name        | Result                            | Species                                              | Exposure |
|--------------------------------|-----------------------------------|------------------------------------------------------|----------|
| Solvent Mixture<br>Naphthalene | Acute LC50 2200 ug/L Fresh water  | Fish - Lepomis macrochirus - 35 to 75 mm             | 4 days   |
|                                | Acute EC50 1600 ug/L Fresh water  | Daphnia - Daphnia magna - Neonate -<br><=24 hours    | 48 hours |
|                                | Acute LC50 2350 ug/L Marine water | Crustaceans - Palaemonetes pugio                     | 48 hours |
|                                | Acute LC50 213 ug/L Fresh water   | Fish - Melanotaenia fluviatilis - Larvae - 1<br>days | 96 hours |
|                                | Chronic NOEC 600 ug/L Fresh water | Daphnia - Daphnia magna - <=24 hours                 | 48 hours |

## Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

| Regulatory information    | UN number      | Proper shipping name                                                     | Classes | PG* | Label | Additional information |
|---------------------------|----------------|--------------------------------------------------------------------------|---------|-----|-------|------------------------|
| <b>DOT Classification</b> | NA1993         | COMBUSTIBLE LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy aromatic) | 3       | III |       | -                      |
| <b>TDG Classification</b> | Not regulated. | -                                                                        | -       | -   |       | -                      |
| <b>IMDG Class</b>         | Not regulated. | -                                                                        | -       | -   |       | -                      |
| <b>IATA-DGR Class</b>     | Not regulated. | -                                                                        | -       | -   |       | -                      |

PG\* : Packing group

Exemption to the above classification may apply.

**AERG** : 128

## Section 15. Regulatory information

### United States

**HCS Classification** : Combustible liquid  
Irritating material  
Carcinogen

**U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** Solvent Mixture  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**  
 Solvent Mixture: Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** Naphthalene; Benzene

**Clean Water Act (CWA) 311:** Naphthalene; Benzene

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

### SARA 313

|                                        | <u>Product name</u> | <u>CAS number</u> | <u>Concentration</u> |
|----------------------------------------|---------------------|-------------------|----------------------|
| <b>Form R - Reporting requirements</b> | : Naphthalene       | 91-20-3           | 0.1 - 1              |
| <b>Supplier notification</b>           | : Naphthalene       | 91-20-3           | 0.1 - 1              |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

|                      |                                                    |
|----------------------|----------------------------------------------------|
| <b>Massachusetts</b> | : None of the components are listed.               |
| <b>New York</b>      | : The following components are listed: Naphthalene |
| <b>New Jersey</b>    | : The following components are listed: Naphthalene |
| <b>Pennsylvania</b>  | : The following components are listed: Naphthalene |

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> | <u>No significant risk level</u>                 | <u>Maximum acceptable dosage level</u>          |
|------------------------|---------------|---------------------|--------------------------------------------------|-------------------------------------------------|
| Naphthalene            | Yes.          | No.                 | Yes.                                             | No.                                             |
| Benzene                | Yes.          | Yes.                | 6.4 µg/day (ingestion)<br>13 µg/day (inhalation) | 24 µg/day (ingestion)<br>49 µg/day (inhalation) |

### Canada

**WHMIS (Canada)** : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
 Class D-2A: Material causing other toxic effects (Very toxic).  
 Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists** : **CEPA Toxic substances:** The following components are listed: Naphthalene  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** The following components are listed: Solvent naphtha (petroleum), heavy aromatic; Solvent Mixture  
**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.

**Canada inventory** : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### International regulations

- 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.
  - New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
  - Philippines inventory (PICCS):** All components are listed or exempted.

## Section 16. Other information

### United States

- Label requirements** : COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN IRRITATION. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

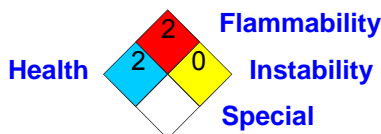
### Hazardous Material Information System (U.S.A.) :

|                  |   |   |
|------------------|---|---|
| Health           | * | 2 |
| Flammability     |   | 2 |
| Physical hazards |   | 0 |
|                  |   |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.) :



- Date of issue** : 04/30/2011  
**Date of previous issue** : 07/01/2010  
**Version** : 2

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.