

MATERIAL SAFETY DATA SHEET

Revision Date : 06.03.2007

1. PRODUCT IDENTIFICATION

Product name : BLEND AV
Product use : Solvent
UN number : 1268

MSDS Internet website : www.hitechchemicals.co.za

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS-No. | Weight% | Symbol Codes | R-Phrase Numbers |
|-----------------------------------|------------|---------------|--------------|---|
| Heavy Aromatic Petroleum Solvent | 64742-94-5 | 50.00 | Xn, N | R10, R20/22, R36/38 |
| Toluene | 108-88-3 | 20.00 - 25.00 | F, Xn | R11, R20 |
| Light Aliphatic Petroleum Solvent | 64742-89-8 | 10.00 - 20.00 | F, Xi | R11, R38, R48/20, R65 |
| Xylene | 1330-20-7 | 10.00 - 15.00 | F, Xn | R10, R20/21, R38 |
| n-Hexane | 110-54-3 | < 2.00 | Xn, F | R11, R48/20, R38, Repr.Cat.3, R62, R65, R67, R51/53 |
| Benzene | 71-43-2 | < 0.10 | | |

See Section 15 for European Label Information.

See Section 8 for Exposure Limits (if applicable).

3. HAZARDS IDENTIFICATION

Emergency response data : Colourless Liquid. Highly flammable. DOT ERG No. : 128

Potential health effects

Inhalation : Respiratory irritation, dizziness, nausea and loss of consciousness.
Skin : Prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.
Eye : Irritant.
Ingestion : Low viscosity material if swallowed may enter the lungs and cause lung damage.

See Section 11 for further health effects/toxicological data.

4. FIRST AID MEASURES

Inhalation : Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation with a mouthpiece.

BLEND AV

| | | |
|-----------------|---|--|
| Skin contact | : | Wash contact areas with soap and water. Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury) |
| Eye contact | : | Flush thoroughly with water. If irritation occurs call a doctor. |
| Ingestion | : | Seek immediate medical attention. Do not induce vomiting. |
| Note to doctors | : | Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately. |

5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Extinguishing media | : | Carbon dioxide, foam, dry chemical and water fog. |
| Special fire fighting procedure | : | Water spray should only be used to keep fire-exposed containers cool, flush spills away from exposures, disperse vapours and protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, municipal sewers, or drinking water supply. |
| Special protective equipment for firefighters | : | For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus. |
| Unusual fire and explosive hazards | : | Flammable. |
| Products of decomposition | : | Fumes, smoke and carbon monoxide. |
| Flash Point | : | < 0 °C (ASTM D-56) |
| Upper Explosion Limit (UEL) | : | 6.0 %(V) |
| Lower Explosion Limit (LEL) | : | 0.8 %(V) |
| NFPA Hazard Id | : | Health: 0; Flammability: 2; Reactivity: 0 |

6. ACCIDENTAL RELEASE MEASURES

| | | |
|--|---|---|
| Procedure if material is released or spilled | : | Report spills/releases as required to appropriate authorities. |
| Methods for cleaning up | : | Absorb on fire-retardant treated sawdust, diatomaceous earth, etc. Shovel up with spark-resistant utensils for later disposal at an approved facility, in accordance with current laws and regulations. |
| Personal precautions | : | See Section 8. |
| Environmental precautions | : | Prevent spills from entering municipal sewers or drains and contact with soil. |

7. HANDLING AND STORAGE

| | | |
|----------------------|---|---|
| Safe handling advice | : | Avoid prolonged repeated skin contact. |
| Storage information | : | Store away from all ignition sources in a cool, well ventilated area. This product is a static accumulator, therefore, all storage containers should be grounded and bonded. Drums should also be equipped with self-closing valves, pressure vacuum bungs and flame arresters. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

| Components | CAS-No. | Source | TWA | Value | | Notations |
|-----------------------------------|----------------|---------------|------------|-----------------------|---------|------------------|
| Light Aliphatic Petroleum Solvent | 64742-89-8 | ACGIH TLV | | 525 mg/m ³ | 100 ppm | |

BLEND AV

| | | | | | | |
|----------------------------------|------------|---|--|--|--|--|
| Toluene | 108-88-3 | ACGIH TLV OSHA PEL OSHA PEL SA OEL | LTEL STEL LTEL STEL LTEL STEL | 188 mg/m ³ 560 mg/m ³ 375 mg/m ³ 560 mg/m ³ 188 mg/m ³ 560 mg/m ³ | 50 ppm 150 ppm 100 ppm 150 ppm 50 ppm 150 ppm | Skin; A4; BEI Estimated Skin Recommended Limit |
| Xylene | 1330-20-7 | ACGIH TLV OSHA PEL | LTEL STEL LTEL STEL | 434 mg/m ³ 651 mg/m ³ 435 mg/m ³ 655 mg/m ³ | 100 ppm 150 ppm 100 ppm 150 ppm | A4; BEI |
| Heavy Aromatic Petroleum Solvent | 64742-94-5 | ACGIH TLV | | 525 mg/m ³ | 100 ppm | |
| Xylene | 1330-20-7 | ACGIH TLV OSHA PEL | LTEL STEL LTEL STEL | 434 mg/m ³ 651 mg/m ³ 435 mg/m ³ 655 mg/m ³ | 100 ppm 150 ppm 100 ppm 150 ppm | A4; BEI |
| n-Hexane | 110-54-3 | ACGIH TLV EINECS | LTEL STEL LTEL | 176 mg/m ³ 528 mg/m ³ 70 mg/m ³ | 50 ppm 150 ppm 20 ppm | Skin; BEI |

LTEL: Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.

STEL: Short Term Exposure Limits - Time Weight Average (TWA) over 15 Minutes

Note: Limits Shown for guidance only. Follow applicable regulations.

Personal Protection Equipment (PPE)

- Engineering controls : Use in well ventilated area. Explosive-proof ventilation equipment with local exhaust is desirable.
- Respiratory protection : Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the recommended exposure limit. Self-Contained Breathing Apparatus may be required for use in confined or enclosed spaces.
- Eye protection : Normal industrial eye protection practices should be employed.
- Skin and body protection : If prolonged or repeated skin contact is likely wear solvent-resistant gloves and clothing. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : Colourless
- Odour : Aromatic
- Solubility : Negligible
- Boiling point/range : > 80 °C
- Flash Point : < 0 °C (ASTM D-56)
- Upper Explosion Limit (UEL) : 6.0 %(V)
- Lower Explosion Limit (LEL) : 0.8 %(V)
- Vapour pressure : < 20 hPa
- Density : 0.8100 g/cm³ @ 20 °C (ASTM D-4052)
- Viscosity, kinematic : < 2 mm²/s @ 40 °C (ASTM D-445)

10. STABILITY AND REACTIVITY

- Stability : Stable
- Conditions to avoid : Heat, sparks, flame and build up of static electricity.
- Materials to avoid : Strong oxidizers.
- Hazardous decomposition : Fumes, smoke and carbon monoxide.

BLEND AV

products

11. TOXICOLOGICAL INFORMATION

| | | |
|---------------------------|---|--|
| Acute oral toxicity | : | (Rats): Practically non-toxic (LD50: Greater than 2000 mg/kg). Based on testing of similar products and/or components. |
| Acute inhalation toxicity | : | (Rats): Practically non-toxic (LC50: greater than 5mg/l). Based on testing of similar products and/or the components. |
| Acute dermal toxicity | : | (Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components. |
| Skin irritation | : | (Rabbits): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). Based on testing of similar products and/or the components. |
| Eye irritation | : | (Rabbits): Practically non-irritating. (Draize score: greater than 6 but 15 or less). Based on testing of similar products and/or the components. |
| Repeated dose toxicity | : | Certain straight-run middle distillates have been found to produce skin tumors in laboratory mouse skin-painting tests, but these have usually been associated with a high level of skin irritation. Laboratory tests have indicated that the irritation can produce tumours. Therefore, if the precautions outlined in this MSDS are followed to minimize repeated or prolonged skin contact which could cause irritation, these oils should pose no carcinogenic hazard to humans. Prolonged repeated skin contact with low viscosity materials may defeat the skin resulting in possible irritation and dermatitis. |

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

| | | |
|-------------------------------|---|------------------|
| Biodegradability | : | Not established. |
| Physico-chemical removability | : | Not established. |
| Bioaccumulation | : | Not established. |

Ecotoxicity effects

| | | |
|------------------|---|---|
| Toxicity to fish | : | (Juvenile rainbow trout) LC/EC50: 1 - 10ppm |
|------------------|---|---|

Further information on ecology

| | | |
|---------|---|---|
| Remarks | : | Toxic to fish, aquatic organisms and wildlife. Do not discharge into lakes, streams, ponds and ground water supply. |
|---------|---|---|

13. DISPOSAL CONSIDERATIONS

| | | |
|------------------------|---|--|
| Waste disposal | : | Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal. |
| Contaminated packaging | : | Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally |

BLEND AV

safe manner and in accordance with governmental regulations.

| | | |
|-------------------|---|--|
| Other regulations | : | Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). |
| Flash Point | : | < 0 °C (ASTM D-56) |

14. TRANSPORT INFORMATION

ADR

| | | |
|----------------------|---|---|
| Proper shipping name | : | Flammable liquid n.o.s. (contains HEAVY AROMATIC PETROLEUM SOLVENT) |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | III |
| Labelling number | : | 3 |

CFR

| | | |
|----------------------|---|---|
| Proper shipping name | : | Flammable liquid n.o.s. (contains HEAVY AROMATIC PETROLEUM SOLVENT) |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | III |
| Labelling number | : | 3 |

IATA_C

| | | |
|----------------------|---|---|
| Proper shipping name | : | Flammable liquid n.o.s. (contains HEAVY AROMATIC PETROLEUM SOLVENT) |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | III |
| Labelling number | : | 3 |

IMDG

| | | |
|--------------------------------------|---|---|
| Proper shipping name | : | Flammable liquid n.o.s. (contains HEAVY AROMATIC PETROLEUM SOLVENT) |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | III |
| Labelling number | : | 3 |
| Marine pollutant | : | Marine pollutant |
| Medical First Aid Guide (MFAG) table | : | 311 |
| Emergency Schedule (EmS) number | : | 3-07 |
| IMDG code page number | : | 3375 |

15. REGULATORY INFORMATION

| | | |
|---|---|--|
| US OSHA Hazard Communication Standard | : | Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous. |
| U.S. Drug Enforcement Administration Chemical Diversion and Trafficking Act | : | Sales, receipts, movements or unexplainable losses of the following chemical(s) may require recordkeeping and reporting in accordance with 21 CFR 1310/1313. Contains Toluene. |
| Governmental Inventory Status | : | All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC. |
| EU Labelling | : | Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives. |
| Symbols | : | F, Xn, Xi Highly flammable, Harmful, Irritant |
| R-Phrase(s) | : | R20/22, R36/38, R52/53 |

BLEND AV

Harmful by inhalation and if swallowed., Irritating to eyes and skin.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s) : S36/37/39, S26, S62
Wear suitable protective clothing, gloves and eye/face protection. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice., If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Note : Contains Low Viscosity Oil.

SARA

U.S. Superfund Amendments and Reauthorization Act SARA Title III : This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) Reportable Hazard Categories : Fire Chronic

SARA (313) Toxic Release Chemicals: : Benzene (71-43-2) - Conc < 0.1 %.

The following product ingredients are cited on the lists below

| Chemical name | CAS-No. | Concentration [%] | List Citations |
|-----------------------------------|------------|-------------------|---|
| Heavy Aromatic Petroleum Solvent | 64742-94-5 | 50.00 | 1, 18, 19, 20, 21, 23, 25 |
| Toluene | 108-88-3 | 20.00 - 25.00 | 1, 10, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 |
| Light Aliphatic Petroleum Solvent | 64742-89-8 | 10.00 - 20.00 | 1, 18, 19, 20, 21, 23, 25 |
| Xylene | 1330-20-7 | 10.00 - 15.00 | 1, 10, 18, 19, 20, 21, 22, 23, 24, 25, 26 |
| n-Hexane | 110-54-3 | < 2.00 | 1, 10, 18, 19, 20, 21, 23, 25, 26 |
| Benzene | 71-43-2 | < 0.10 | 1, 2, 4, 6, 9, 10, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 |

Regulatory List Searched

| | | | | |
|---------------|---------------|---------------|-------------|-------------|
| 1 = ACGIH ALL | 6 = IARC 1 | 11 = TSCA 4 | 17 = CA P65 | 22 = MI 293 |
| 2 = ACGIH A1 | 7 = IARC 2A | 12 = TSCA 5a2 | 18 = CA RTK | 23 = MN RTK |
| 3 = ACGIH A2 | 8 = IARC 2B | 13 = TSCA 5e | 19 = FL RTK | 24 = NJ RTK |
| 4 = NTP CARC | 9 = OSHA CARC | 14 = TSCA 6 | 20 = IL RTK | 25 = PA RTK |
| 5 = NTP SUS | 10 = OSHA Z | 15 = TSCA 12b | 21 = LA RTK | 26 = RI RTK |

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

16. OTHER INFORMATION

Note: Engen products do not contain PCBs.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for any other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Contains Low Viscosity Oil.

BLEND AV

DANGER!

SAFETY: Keep away from heat and flame. Avoid prolonged or repeated overexposure by skin contact or inhalation. Use with adequate ventilation. Keep container closed. Keep out of reach of children.

FIRST AID: If swallowed, call a doctor immediately. Only induce vomiting at the instruction of a doctor. Never induce vomiting or give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a doctor immediately. In case of contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Call a doctor if symptoms occur. Wash clothing before reuse.

For industrial use only. Not intended or suitable for use in or around a household or dwelling.

Empty container may contain product residue, including flammable or explosive vapours. Do not cut, puncture, or weld on or near container. All label warnings and precautions must be observed until container has been thoroughly cleaned or destroyed.

Disclaimer

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.
