



SAFETY DATA SHEET

Revision Date 10-Mar-2018

Revision Number 1

1. IDENTIFICATION

Product identifier

Product Name ALDOBOND 452 Contact Adhesive

Other means of identification

Synonyms Resin solution

Recommended use of the chemical and restrictions on use

Recommended Use For professional use only. Aldobond 452 is a fast setting spray grade contact cement with long open tack time. It was developed for bonding fabric, rubber, plastic, wood and many other materials.

Details of the supplier of the safety data sheet

Supplier Name Aldo Products Company, Inc.

Supplier Address 1320 Litton Drive
Salisbury, NC 28147

Supplier Phone Number 704-932-3054

Supplier Web Site www.aldoproducts.com

Emergency telephone number

Emergency Phone Number 800-535-5053

2. HAZARDS IDENTIFICATION


Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | |
|--|-------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Germ cell mutagenicity | Category 1B |
| Carcinogenicity | Category 1A |
| Reproductive Toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Flammable liquids | Category 2 |

GHS Label elements, including precautionary statements

Emergency Overview

| | | |
|---|---------------|--------------------------------------|
| Signal word | Danger | |
| Hazard Statements | | |
| Causes skin irritation | | |
| Causes serious eye irritation | | |
| May cause genetic defects | | |
| May cause cancer | | |
| Suspected of damaging fertility or the unborn child | | |
| May cause drowsiness or dizziness | | |
| May cause damage to organs through prolonged or repeated exposure | | |
| May be fatal if swallowed and enters airways | | |
| Highly flammable liquid and vapor | | |
|  | | |
| Appearance | Tan | Physical state Viscous liquid |
| | | Odor Solvent |

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ ventilating/ lighting/ equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Keep cool
 Wear eye/face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see supplemental first aid instructions on this label)

Eyes

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

Skin

If skin irritation occurs: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Do NOT induce vomiting

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

22 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

May be harmful if swallowed

Toxic to aquatic life with long lasting effects

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS

Interactions with Other Chemicals

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% | Trade Secret |
|--|------------|----------|--------------|
| Naphtha, petroleum, hydrotreated light | 64742-49-0 | 30 - 60 | * |
| Acetone | 67-64-1 | 30 - 60 | * |
| Toluene | 108-88-3 | 10 - 30 | * |
| Octane | 111-65-9 | 1 - 5 | * |
| Heptanes | 142-82-5 | 1 - 5 | * |
| Cyclohexane | 110-82-7 | 1 - 5 | * |
| Zinc oxide | 1314-13-2 | 1 - 5 | * |
| Methylene di-t-butylcresol | 119-47-1 | 1 - 5 | * |
| Magnesium oxide | 1309-48-4 | 1 - 5 | * |
| Ethylbenzene | 100-41-4 | 0.1 - 1 | * |
| Benzene | 71-43-2 | 0.1 - 1 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret. Contains additional non-toxic and proprietary ingredients.

4. FIRST AID MEASURES

First aid measures**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Skin contact

Get medical attention if irritation develops and persists. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

| | |
|---|---|
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. |
| Ingestion | Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Aspiration hazard if swallowed - can enter lungs and cause damage. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Call a physician or poison control center immediately. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Remove all sources of ignition. |

Most important symptoms and effects, both acute and delayed

| | |
|--|--|
| Most Important Symptoms and Effects | Burning sensation. Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. |
|--|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Uniform Fire Code

Irritant: Liquid

Flammable Liquid: I-B

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact: No.

Sensitivity to Static Discharge: Yes.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. See section 8 for more information. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other Information: Refer to protective measures listed in Sections 7 and 8. Ventilate the area.

Environmental precautions

Environmental precautions: Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up: Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

Conditions for safe storage, including any incompatibilities

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Protect from moisture. Keep out of the reach of children. Store away from other materials. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

Incompatible Products

Strong acids. Strong oxidizing agents. Strong bases. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------|--------------------------------|---|--|
| Acetone 67-64-1 | STEL = 750 ppm TWA: 500 ppm | TWA: 1000 ppm TWA: 2400 mg/m ³ (vacated) TWA: 1800 mg/m ³ | IDLH: 2500 ppm 10% LEL TWA: 250 ppm TWA: 590 mg/m ³ |

| | | | |
|--------------------------|--------------------------------------|---|--|
| | | (vacated) TWA: 750 ppm (vacated) STEL: 1000 ppm (vacated) STEL: 2400 mg/m ³ | |
| Toluene 108-88-3 | TWA: 20 ppm | TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm | IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³ |
| Octane 111-65-9 | TWA: 300 ppm | TWA: 500 ppm TWA: 2350 mg/m ³ (vacated) TWA: 300 ppm (vacated) TWA: 1450 mg/m ³ (vacated) STEL: 375 ppm (vacated) STEL: 1800 mg/m ³ | IDLH: 1000 ppm Ceiling: 385 ppm 15 min Ceiling: 1800 mg/m ³ 15 min TWA: 75 ppm TWA: 350 mg/m ³ |
| Heptanes 142-82-5 | STEL: 500 ppm TWA: 400 ppm | TWA: 500 ppm TWA: 2000 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 1600 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 2000 mg/m ³ | IDLH: 750 ppm Ceiling: 440 ppm 15 min Ceiling: 1800 mg/m ³ 15 min TWA: 85 ppm TWA: 350 mg/m ³ |
| Cyclohexane 110-82-7 | TWA: 100 ppm | TWA: 300 ppm TWA: 1050 mg/m ³ (vacated) TWA: 300 ppm (vacated) TWA: 1050 mg/m ³ | IDLH: 1300 ppm TWA: 300 ppm TWA: 1050 mg/m ³ |
| Ethylbenzene 100-41-4 | STEL = 125 ppm TWA: 100 ppm | TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m ³ | IDLH: 800 ppm 10% LEL TWA: 100 ppm TWA: 435 mg/m ³ STEL: 545 mg/m ³ STEL: 125 ppm |
| Benzene 71-43-2 | STEL = 2.5 ppm TWA: 0.5 ppm S* | TWA: 1 ppm TWA: 10 ppm (vacated) TWA: 10 ppm (vacated) STEL: 50 ppm (vacated) Ceiling: 25 ppm Ceiling: 25 ppm STEL: 5 ppm | IDLH: 500 ppm TWA: 0.1 ppm STEL: 1 ppm |

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur: None required for consumer use. Tight sealing safety goggles.

Skin and body protection

Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Chemical resistant apron. Antistatic boots.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | | | |
|--|--------------------------|-----------------------------|--------------------------|
| Physical state | Viscous liquid | | |
| Appearance | Tan | Odor | Solvent |
| Color | No information available | Odor Threshold | No information available |
| <u>Property</u> | <u>Values</u> | <u>Remarks</u> | <u>Method</u> |
| pH | UNKNOWN | None known | |
| Melting / freezing point | No data available | None known | |
| Boiling point / boiling range | 138 °C / 280 °F | None known | |
| Flash Point | 18 C / 0 F | None known | |
| Evaporation Rate | No data available | Slower than ether | |
| Flammability (solid, gas) | No data available | None known | |
| Flammability Limit in Air | | | |
| Upper flammability limit | No data available | | |
| Lower flammability limit | 1% | | |
| Vapor pressure | No data available | None known | |
| Vapor density | No data available | None known | |
| Specific Gravity | 0.9 | 6.7 – 7.1 pounds per gallon | |
| Water Solubility | Reacts with water | None known | |
| Solubility in other solvents | No data available | None known | |
| Partition coefficient: n-octanol/water | No data available | None known | |
| Autoignition temperature | No data available | None known | |
| Decomposition temperature | No data available | None known | |
| Kinematic viscosity | No data available | None known | |
| Dynamic viscosity | 150 – 300 mPa-s | None known | |
| Explosive properties | No data available | | |
| Oxidizing properties | No data available | | |
| VOC Content (%) | 82- 86 %. 613 g/liter | | |

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases. Chlorinated compounds.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause drowsiness or dizziness. |
| Eye contact | Specific test data for the substance or mixture is not available. (based on components). May cause redness, itching, and pain. Causes serious eye irritation. May cause irritation. |
| Skin contact | Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking. |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|--|--------------------------|--|
| Naphtha, petroleum, hydrotreated light 64742-49-0 | > 5000 mg/kg (Rat) | > 3160 mg/kg (Rabbit) | = 73680 ppm (Rat) 4 h |
| Acetone 67-64-1 | = 5800 mg/kg (Rat) | - | = 50100 mg/m ³ (Rat) 8 h |
| Toluene 108-88-3 | = 2600 mg/kg (Rat) | = 12000 mg/kg (Rabbit) | = 12.5 mg/L (Rat) 4 h |
| Octane 111-65-9 | - | - | = 118 g/m ³ (Rat) 4 h = 25260 ppm (Rat) 4 h |
| Heptanes 142-82-5 | - | = 3000 mg/kg (Rabbit) | = 103 g/m ³ (Rat) 4 h |
| Cyclohexane 110-82-7 | = 12705 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | = 13.9 mg/L (Rat) 4 h |
| Zinc oxide 1314-13-2 | > 5000 mg/kg (Rat) | - | - |
| Methylene di-t-butylcresol 119-47-1 | > 10000 mg/kg (Rat) | > 10000 mg/kg (Rabbit) | - |
| Ethylbenzene 100-41-4 | = 3500 mg/kg (Rat) | = 15400 mg/kg (Rabbit) | = 17.2 mg/L (Rat) 4 h |
| Benzene 71-43-2 | = 810 mg/kg (Rat) = 1800 mg/kg (Rat) | > 8200 mg/kg (Rabbit) | = 44.66 mg/L (Rat) 4 h |

Information on toxicological effects

| | |
|-----------------|--|
| Symptoms | Erythema (skin redness). May cause redness and tearing of the eyes. Difficulty in breathing. Coughing and/ or wheezing. Asthma-like and/ or skin allergy-like symptoms. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. |
|-----------------|--|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--------------------------|--|
| Sensitization | No information available. |
| Mutagenic Effects | There is no data for this product. Contains a known or suspected mutagen. |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------------|-------|----------|-----|------|
| Toluene 108-88-3 | | Group 3 | | |
| Ethylbenzene | A3 | Group 2B | | X |

| | | | | |
|--------------------|----|---------|-------|---|
| 100-41-4 | | | | |
| Benzene 71-43-2 | A1 | Group 1 | Known | X |

ACGIH (American Conference of Governmental Industrial Hygienists)
 A1 - Known Human Carcinogen
 A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
 Group 1 - Carcinogenic to Humans
 Group 2B - Possibly Carcinogenic to Humans
 Group 3 - Not Classifiable as to Carcinogenicity in Humans
NTP (National Toxicology Program)
 Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

- Reproductive toxicity** Contains a known or suspected reproductive toxin. Product is or contains a chemical which is a known or suspected reproductive hazard.
- STOT - single exposure** No information available.
- STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).
- Chronic Toxicity** No known effect based on information supplied. Contains a known or suspected mutagen. Possible risk of irreversible effects. Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Aspiration may cause pulmonary edema and pneumonitis. Avoid repeated exposure. Prolonged exposure may cause chronic effects. Contains toluene. Exposure to toluene in animals via inhalation and intentional overexposure to toluene in humans has caused adverse fetal development effects.
- Target Organ Effects** Respiratory system. Eyes. Skin. May affect the genetic material in germ cells (sperm and eggs). Gastrointestinal tract (GI). Reproductive System. Liver. Kidney. Central Nervous System (CNS). Blood. Bone marrow.
- Aspiration Hazard** No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

- ATEmix (oral)**
4,143.00 mg/kg
- ATEmix (dermal)**
26,366.00 mg/kg (ATE)
- ATEmix (inhalation-dust/mist)**
30.18 mg/l
- ATEmix (inhalation-vapor)**
3,681.73 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|--|-------------------|------------------|----------------------------|----------------------------|
| Naphtha, petroleum, hydrotreated light | | | | 96h LC50: = 2.6 mg/L |

| | | | | |
|--------------------------|--|--|---|---|
| 64742-49-0 | | | | |
| Acetone 67-64-1 | | 96h LC50: 4.74 - 6.33 mL/L (Oncorhynchus mykiss) 96h LC50: 6210 - 8120 mg/L (Pimephales promelas) 96h LC50: = 8300 mg/L (Lepomis macrochirus) | EC50 = 14500 mg/L 15 min | 48h EC50: 10294 - 17704 mg/L 48h EC50: 12600 - 12700 mg/L |
| Toluene 108-88-3 | 96h EC50: > 433 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 12.5 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: 15.22 - 19.05 mg/L (Pimephales promelas) 96h LC50: 5.89 - 7.81 mg/L (Oncorhynchus mykiss) 96h LC50: 14.1 - 17.16 mg/L (Oncorhynchus mykiss) 96h LC50: = 5.8 mg/L (Oncorhynchus mykiss) 96h LC50: = 12.6 mg/L (Pimephales promelas) 96h LC50: 11.0 - 15.0 mg/L (Lepomis macrochirus) 96h LC50: = 54 mg/L (Oryzias latipes) 96h LC50: = 28.2 mg/L (Poecilia reticulata) 96h LC50: 50.87 - 70.34 mg/L (Poecilia reticulata) | EC50 = 19.7 mg/L 30 min | 48h EC50: 5.46 - 9.83 mg/L 48h EC50: = 11.5 mg/L |
| Octane 111-65-9 | | | EC50 = 890 mg/L 30 min | 48h EC50: = 0.38 mg/L |
| Heptanes 142-82-5 | | 96h LC50: = 375.0 mg/L (Cichlid fish) | | 24h EC50: > 10 mg/L |
| Cyclohexane 110-82-7 | 72h EC50: > 500 mg/L (Desmodesmus subspicatus) | 96h LC50: 23.03 - 42.07 mg/L (Pimephales promelas) 96h LC50: 24.99 - 44.69 mg/L (Lepomis macrochirus) 96h LC50: 48.87 - 68.76 mg/L (Poecilia reticulata) 96h LC50: 3.96 - 5.18 mg/L (Pimephales promelas) | EC50 = 85.5 mg/L 5 min EC50 = 93 mg/L 10 min | 24h EC50: > 400 mg/L |
| Ethylbenzene 100-41-4 | 72h EC50: = 4.6 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 2.6 - 11.3 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 1.7 - 7.6 mg/L (Pseudokirchneriella subcapitata) 96h EC50: > 438 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: = 4.2 mg/L (Oncorhynchus mykiss) 96h LC50: 9.1 - 15.6 mg/L (Pimephales promelas) 96h LC50: = 32 mg/L (Lepomis macrochirus) 96h LC50: 7.55 - 11 mg/L (Pimephales promelas) 96h LC50: 11.0 - 18.0 mg/L (Oncorhynchus mykiss) 96h LC50: = 9.6 mg/L (Poecilia reticulata) | EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h | 48h EC50: 1.8 - 2.4 mg/L |
| Benzene 71-43-2 | 72h EC50: = 29 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: 10.7 - 14.7 mg/L (Pimephales promelas) 96h LC50: = 28.6 mg/L (Poecilia reticulata) 96h LC50: 22330 - 41160 µg/L (Pimephales promelas) 96h LC50: = 22.49 mg/L (Lepomis macrochirus) 96h LC50: = 5.3 mg/L (Oncorhynchus mykiss) 96h LC50: 70000 - 142000 µg/L (Lepomis macrochirus) | | 48h EC50: 8.76 - 15.6 mg/L 48h EC50: = 10 mg/L |

Persistence and Degradability

No information available.

Bioaccumulation

| Chemical Name | Log Pow |
|--------------------------|---------|
| Acetone 67-64-1 | -0.24 |
| Toluene 108-88-3 | 2.65 |
| Octane 111-65-9 | 5.18 |
| Heptanes 142-82-5 | 4.66 |
| Cyclohexane 110-82-7 | 3.44 |
| Ethylbenzene 100-41-4 | 3.118 |
| Benzene 71-43-2 | 1.83 |

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal methods:** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).**Contaminated Packaging:** Dispose of contents/containers in accordance with local regulations.**US EPA Waste Number:** D001 D018 U002 U019 U056 U220 U239.

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|---------------------|--------------------------------------|------------------------|---|------------------------|
| Toluene 108-88-3 | | | Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. | |
| Benzene 71-43-2 | no data delivered | no data delivered | no data delivered | no data delivered |

California Hazardous Waste Codes 281

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste |
|--------------------------|----------------------------|
| Acetone 67-64-1 | Ignitable |
| Toluene 108-88-3 | Toxic Ignitable |
| Octane 111-65-9 | Toxic Ignitable |
| Heptanes 142-82-5 | Toxic Ignitable |
| Cyclohexane 110-82-7 | Toxic |
| Zinc oxide 1314-13-2 | Toxic |
| Ethylbenzene 100-41-4 | Toxic Ignitable |
| Benzene 71-43-2 | Toxic Ignitable |

14. TRANSPORT INFORMATION

DOT

UN-No. UN1133
Proper Shipping Name ADHESIVES
Hazard Class 3
Packing Group II
Description UN1133, ADHESIVES, 3, II

TDG

UN-No. UN1133
Proper Shipping Name ADHESIVES
Hazard Class 3
Packing Group II
Description UN1133, ADHESIVES, 3, II

MEX

| | |
|-----------------------------|--------------------------|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1133, ADHESIVES, 3, II |

ICAO

| | |
|-----------------------------|--------------------------|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1133, ADHESIVES, 3, II |

IATA

| | |
|-----------------------------|--------------------------|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1133, ADHESIVES, 3, II |

IMDG/IMO

| | |
|-----------------------------|---|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| EmS-No. | F-E, S-D |
| Marine Pollutant | Product is a marine pollutant according to the criteria set by IMDG/IMO |
| Description | UN1133, ADHESIVES, 3, II, (18°C C.C.) |

RID

| | |
|-----------------------------|---|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Classification code | F1 |
| Description | UN1133, ADHESIVES, ENVIRONMENTALLY HAZARDOUS, 3, II |
| ADR/RID-Labels | 3 |

ADR

| | |
|--------------------------------|--|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Classification code | F1 |
| Tunnel restriction code | (D/E) |
| Description | UN1133, ADHESIVES, ENVIRONMENTALLY HAZARDOUS, 3, II, (D/E) |

ADN

| | |
|-----------------------------|---|
| UN-No. | UN1133 |
| Proper Shipping Name | ADHESIVES |
| Hazard Class | 3 |
| Packing Group | II |
| Classification code | F1 |
| Special Provisions | 640C |
| Description | UN1133, ADHESIVES, ENVIRONMENTALLY HAZARDOUS, 3, II |
| Hazard Labels | 3 |
| Limited Quantity | 5 L |

Ventilation

VE01

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
 DSL All components are listed either on the DSL or NDSL.
 IECSC -

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS No | Weight-% | SARA 313 - Threshold Values % |
|-------------------------|-----------|----------|-------------------------------|
| Toluene - 108-88-3 | 108-88-3 | 10 - 30 | 1.0 |
| Cyclohexane - 110-82-7 | 110-82-7 | 1 - 5 | 1.0 |
| Zinc oxide - 1314-13-2 | 1314-13-2 | 1 - 5 | 1.0 |
| Ethylbenzene - 100-41-4 | 100-41-4 | 0.1 - 1 | 0.1 |
| Benzene - 71-43-2 | 71-43-2 | 0.1 - 1 | 0.1 |

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
 Chronic Health Hazard Yes
 Fire Hazard Yes
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Toluene 108-88-3 | 1000 lb | X | X | X |
| Cyclohexane 110-82-7 | 1000 lb | | | X |
| Zinc oxide 1314-13-2 | | X | | |
| Ethylbenzene 100-41-4 | 1000 lb | X | X | X |
| Benzene 71-43-2 | 10 lb | X | X | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---------------------|--------------------------|------------------------------------|--|
| Acetone 67-64-1 | 5000 lb | | RQ= 2270 kg final RQ RQ= 5000 lb final RQ |
| Toluene 108-88-3 | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |

| | | | |
|--------------------------|---------|-------------------|---|
| Cyclohexane 110-82-7 | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |
| Ethylbenzene 100-41-4 | 1000 lb | | RQ= 1000 lb final RQ RQ= 454 kg final RQ |
| Benzene 71-43-2 | 10 lb | no data delivered | RQ 10 lb final RQ RQ 4.54 kg final RQ |

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

| Chemical Name | California Proposition 65 |
|-------------------------|--|
| Toluene - 108-88-3 | Developmental |
| Ethylbenzene - 100-41-4 | Carcinogen |
| Benzene - 71-43-2 | Carcinogen Developmental Male Reproductive |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|------------------------------------|------------|---------------|--------------|--------------|----------|
| Acetone 67-64-1 | X | X | X | X | |
| Toluene 108-88-3 | X | X | X | X | X |
| Cyclohexane 110-82-7 | X | X | X | X | |
| Octane 111-65-9 | X | X | X | | |
| Heptanes 142-82-5 | X | X | X | | |
| Magnesium oxide 1309-48-4 | X | X | X | | |
| Zinc oxide 1314-13-2 | X | X | X | X | |
| Xylene, mixed isomers 1330-20-7 | X | X | X | X | X |
| Ethylbenzene 100-41-4 | X | X | X | X | X |
| Benzene 71-43-2 | X | X | X | X | X |

International Regulations

Mexico

National occupational exposure limits

| Component | Carcinogen Status | Exposure Limits |
|-----------------------------------|-------------------|--|
| Acetone 67-64-1 (30 - 60) | | Mexico: TWA= 1000 ppm Mexico: TWA= 2400 mg/m ³ Mexico: STEL= 1260 ppm Mexico: STEL= 3000 mg/m ³ |
| Toluene 108-88-3 (10 - 30) | | Mexico: TWA 50 ppm Mexico: TWA 188 mg/m ³ |
| Octane 111-65-9 (1 - 5) | | Mexico: TWA 300 ppm Mexico: TWA 1450 mg/m ³ Mexico: STEL 375 ppm Mexico: STEL 1800 mg/m ³ |
| Heptanes 142-82-5 (1 - 5) | | Mexico: TWA 400 ppm Mexico: TWA 1600 mg/m ³ Mexico: STEL 500 ppm Mexico: STEL 2000 mg/m ³ |
| Cyclohexane 110-82-7 (1 - 5) | | Mexico: TWA 300 ppm Mexico: TWA 1050 mg/m ³ |

| | | |
|--|----|--|
| | | Mexico: STEL 375 ppm Mexico: STEL 1300 mg/m ³ |
| Zinc oxide 1314-13-2 (1 - 5) | | Mexico: TWA 5 mg/m ³ Mexico: TWA 10 mg/m ³ Mexico: STEL 10 mg/m ³ |
| Magnesium oxide 1309-48-4 (1 - 5) | | Mexico: TWA 10 mg/m ³ |
| Ethylbenzene 100-41-4 (0.1 - 1) | | Mexico: TWA= 435 mg/m ³ Mexico: TWA= 100 ppm Mexico: STEL= 125 ppm Mexico: STEL= 545 mg/m ³ |
| Benzene 71-43-2 (0.1 - 1) | A2 | Mexico: TWA= 1 ppm Mexico: TWA= 3.2 mg/m ³ Mexico: STEL= 16 mg/m ³ Mexico: STEL= 5 ppm |

A2 - Suspected Human Carcinogen
Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

| | | | | |
|-------------|---------------------------|-----------------------|--------------------------|--|
| NFPA | Health Hazards 2 | Flammability 3 | Instability 0 | Physical and Chemical Hazards - |
| HMIS | Health Hazards 2 * | Flammability 3 | Physical Hazard 0 | Personal Protection X |

Chronic Hazard Star Legend * = Chronic Health Hazard

Revision Date 10-March-2018
Revision Note This is the latest version in the GHS SDS format.

Disclaimer

Judgments as to the suitability of information herein for the purchaser's purposes are necessarily the purchaser's responsibility. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet