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		SDS Number: R0408018
ADHESION PROMOTOR - TPS		Version: 1.0
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29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Trade name : ADHESION PROMOTOR - TPS

### Recommended use of the chemical and restrictions on use

<b>Details of the supplier of the safety data sheet</b> Ashland P.O. Box 2219 Columbus, OH 43216 United States of America  EHS Customer Requests@ashland.com	<b>Emergency telephone number</b> 1-800-ASHLAND (1-800-274-5263)  <b>Regulatory Information Number</b> 1-800-325-3751  <b>Product Information</b> 614-790-3333
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## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Flammable liquids : Category 1

Skin irritation : Category 2

Eye irritation : Category 2A

Reproductive toxicity : Category 2

Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)

Specific target organ systemic toxicity - repeated exposure (Inhalation) : Category 2 (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision))

Aspiration hazard : Category 1

### GHS Label element

Hazard pictograms :



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Signal Word : Danger

Hazard Statements : Extremely flammable liquid and vapor.  
 May be fatal if swallowed and enters airways.  
 Causes skin irritation.  
 Causes serious eye irritation.  
 May cause drowsiness or dizziness.  
 Suspected of damaging fertility or the unborn child.  
 May cause damage to organs (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 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.  
 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
 Wash skin thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 IF exposed or concerned: Get medical advice/ attention. Do NOT induce vomiting.  
 If skin irritation occurs: Get medical advice/ attention.  
 If eye irritation persists: Get medical advice/ attention.  
 Take off contaminated clothing and wash before reuse.  
 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
**Storage:**  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
**Disposal:**  
 Dispose of contents/ container to an approved waste disposal plant.

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**Other hazards**

None known.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture  
 Chemical nature : Static Accumulator  
 Chemical nature : Defatter

**Hazardous components**

Chemical Name	CAS-No.	Classification	Concentration (%)
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361 STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	32.00
ACETONE	67-64-1	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	28.00
PROPANE	74-98-6	Flam. Gas 1; H220 Press. Gas Liquefied gas; H280	12.92
METHYL CYCLOHEXANE	108-87-2	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336	8.96

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		Aquatic Acute 1; H400	
		Aquatic Chronic 1; H410	
ISOBUTANE	75-28-5	Flam. Gas 1; H220 Press. Gas Liquefied gas; H280	6.40
ISOPROPANOL	67-63-0	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	2.72

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#### SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
If unconscious place in recovery position and seek medical advice.  
Consult a physician after significant exposure.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.
- If swallowed : Obtain medical attention.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

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If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed

: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion.

Administration of high doses of isopropanol in combination with known hepatotoxic chemicals resulted in enhanced liver toxicity in experimental animals.

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:

- stomach or intestinal upset (nausea, vomiting, diarrhea)
- irritation (nose, throat, airways)
- temporary changes in mood and behavior
- confusion
- irregular heartbeat
- lung edema (fluid buildup in the lung tissue)
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause drowsiness or dizziness.
- Suspected of damaging fertility or the unborn child.
- May cause damage to organs through prolonged or repeated exposure if inhaled.

Notes to physician

: No hazards which require special first aid measures.

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## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- Water spray
- Foam
- Alcohol-resistant foam
- Carbon dioxide (CO<sub>2</sub>)
- Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Do not allow run-off from fire fighting to enter drains or water courses.

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- Hazardous combustion products : carbon dioxide and carbon monoxide  
Hydrocarbons
- Specific extinguishing methods :
- Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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#### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.  
Remove all sources of ignition.  
Use personal protective equipment.  
Ensure adequate ventilation.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- Other information : Comply with all applicable federal, state, and local regulations.  
Suppress (knock down) gases/vapours/mists with a water spray jet.

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#### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Open drum carefully as content may be under pressure.  
Avoid formation of aerosol.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Do not breathe vapours/dust.  
Do not smoke.  
Container hazardous when empty.  
Take precautionary measures against static discharges.  
Avoid exposure - obtain special instructions before use.

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Avoid contact with skin and eyes.  
Smoking, eating and drinking should be prohibited in the application area.  
For personal protection see section 8.  
Dispose of rinse water in accordance with local and national regulations.  
Container may be opened only under exhaust ventilation hood.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
No smoking.  
Electrical installations / working materials must comply with the technological safety standards.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUID E
		STEL	150 ppm 560 mg/m3	NIOSH/GUID E
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2
ACETONE	67-64-1	TWA	500 ppm	ACGIH
		STEL	750 ppm	ACGIH
		REL	250 ppm 590 mg/m3	NIOSH/GUID E
		PEL	1,000 ppm 2,400 mg/m3	OSHA_TRANS
		TWA	250 ppm	ACGIHLIS_P
		STEL	500 ppm	ACGIHLIS_P
PROPANE	74-98-6	TWA	750 ppm 1,800 mg/m3	Z1A
		STEL	1,000 ppm 2,400 mg/m3	Z1A
		REL	1,000 ppm 1,800 mg/m3	NIOSH/GUID E
		PEL	1,000 ppm 1,800 mg/m3	OSHA_TRANS
		TWA	1,000 ppm	Z1A

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METHYL CYCLOHEXANE	108-87-2	TWA	1,800 mg/m3 400 ppm	ACGIH
		REL	400 ppm 1,600 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,600 mg/m3	Z1A
ISOBUTANE	75-28-5	TWA	1,000 ppm	PY OEL
		REL	800 ppm 1,900 mg/m3	NIOSH/GUIDE
		STEL	1,000 ppm	ACGIH
ISOPROPANOL	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		REL	400 ppm 980 mg/m3	NIOSH/GUIDE
		STEL	500 ppm 1,225 mg/m3	NIOSH/GUIDE
		PEL	400 ppm 980 mg/m3	OSHA_TRANS
		TWA	400 ppm 980 mg/m3	TN OEL
		STEL	500 ppm 1,225 mg/m3	TN OEL

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	
ACETONE	67-64-1	acetone	Urine	Sampling time: End of shift.	50 mg/l	
Remarks:	Nonspecific					
ISOPROPANOL	67-63-0	acetone	Urine	Sampling time: End of shift at	40 mg/l	



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				end of work week.		
Remarks:	Nonspecific, Background					

**Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection  
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:  
impervious clothing  
Safety shoes  
Flame-resistant clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Discard gloves that show tears, pinholes, or signs of wear.  
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : liquid

Odour : No data available

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Odour Threshold : No data available  
 pH : No data available  
 Melting point/freezing point : No data available  
 Boiling point/boiling range : -54 °F / -48 °C  
 (1,013.232 hPa)  
 Calculated Phase Transition Liquid/Gas  
 Flash point : -140.01 °F / -95.56 °C  
 Evaporation rate : No data available  
 Flammability (solid, gas) :  
  
 No data available  
 Flammability (liquids) : Static Accumulating liquid  
 Flammability (liquids) : Static Accumulating liquid  
 Flammability (liquids) :  
 Upper explosion limit : 12.8 %(V)  
 GLP: Calculated Explosive Limit  
 Lower explosion limit : 1.2 %(V)  
 GLP: Calculated Explosive Limit  
 Vapour pressure : 11,585.508 hPa (25 °C)  
 Calculated Vapor Pressure  
 Relative vapour density : No data available  
 Relative density : No data available  
 Density : No data available  
 Solubility(ies)  
 Water solubility : No data available  
 Solubility in other solvents : No data available  
 Partition coefficient: n-octanol/water : No data available  
 Thermal decomposition : No data available  
 Viscosity  
 Viscosity, dynamic : No data available  
 Viscosity, kinematic : No data available

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Oxidizing properties : No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Acids  
Aldehydes  
alkalis  
Amines  
Ammonia  
Ethylene oxide  
halogenated hydrocarbons  
halogens  
isocyanates  
peroxides  
Reducing agents  
Strong oxidizing agents  
Do not use with aluminum equipment at temperatures above 49C or 120 degrees F.

Hazardous decomposition products : carbon dioxide and carbon monoxide  
Hydrocarbons

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

### **Acute toxicity**

Not classified based on available information.

### **Components:**

#### **TOLUENE:**

Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

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**ACETONE:**

Acute oral toxicity : LD 50 (Rat, female): 5,800 mg/kg

Acute inhalation toxicity : LC 50 (Rat, female): 76 mg/l  
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): > 7,426 mg/kg

**PROPANE:**

Acute inhalation toxicity : LC50 (Rat): 1,237 mg/l  
Exposure time: 2 h  
Test atmosphere: gas  
Assessment: Not classified as acutely toxic by inhalation under GHS.  
Remarks: Information given is based on data obtained from similar substances.

**METHYL CYCLOHEXANE:**

Acute oral toxicity : LD50 (Rabbit): 4,000 - 4,500 mg/kg

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Assessment: No adverse effect has been observed in acute dermal toxicity tests.  
Remarks: Information given is based on data obtained from similar substances.

**ISOBUTANE:**

Acute inhalation toxicity : LC 50 (Mouse, male): 520400 ppm  
Exposure time: 2 h  
Test atmosphere: gas

**ISOPROPANOL:**

Acute oral toxicity : LD 50 (Rat): 5.84 g/kg

Acute inhalation toxicity : LC 50 (Rat): 16000 ppm  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rabbit): 12,800 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

**Components:**

**TOLUENE:**

Result: Irritating to skin

**ACETONE:**

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Result: Mildly irritating to skin

Result: Repeated exposure may cause skin dryness or cracking.

METHYL CYCLOHEXANE:

Result: Irritating to skin

ISOBUTANE:

Result: Not irritating to skin

ISOPROPANOL:

Result: Slightly irritating to skin

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

**Components:**

TOLUENE:

Result: Irritating to eyes

ACETONE:

Result: Irritating to eyes

METHYL CYCLOHEXANE:

Species: Rabbit

Result: Not irritating to eyes

ISOBUTANE:

Result: Not irritating to eyes

ISOPROPANOL:

Result: Irritating to eyes

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:**

METHYL CYCLOHEXANE:

Test Type: Buehler Test

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

PROPANE:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: Information given is based on data obtained from

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similar substances.

**METHYL CYCLOHEXANE:**

Genotoxicity in vitro : Test Type: Ames test  
 Test species: Salmonella typhimurium  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 471  
 Result: negative  
 GLP: yes

**ISOBUTANE:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
 Test species: Human lymphocytes  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 473 (In vitro Mammalian Chromosome Aberration Test)  
 Result: negative  
 GLP: yes

Genotoxicity in vivo

: Test Type: Ames test  
 Metabolic activation: with and without metabolic activation  
 Result: negative  
 Remarks: Information given is based on data obtained from similar substances.

Test Type: In vivo micronucleus test  
 Test species: Rat  
 Method: OECD Test Guideline 474  
 Result: negative  
 Remarks: Information given is based on data obtained from similar substances.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Components:**

**TOLUENE:**

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

**STOT - single exposure**

May cause drowsiness or dizziness.

**Components:**

**TOLUENE:**

Exposure routes: Inhalation  
 Target Organs: Central nervous system  
 Assessment: May cause drowsiness or dizziness.

**ACETONE:**

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Exposure routes: Inhalation  
 Target Organs: Nervous system  
 Assessment: May cause drowsiness or dizziness.

**METHYL CYCLOHEXANE:**  
 Assessment: May cause drowsiness or dizziness.

**ISOPROPANOL:**  
 Assessment: May cause drowsiness or dizziness.

**STOT - repeated exposure**  
 May cause damage to organs (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)) through prolonged or repeated exposure if inhaled.

**Components:**

**TOLUENE:**  
 Exposure routes: Inhalation  
 Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)  
 Assessment: May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**  
 May be fatal if swallowed and enters airways.

**Product:**  
 May be fatal if swallowed and enters airways.

**Components:**

**TOLUENE:**  
 May be fatal if swallowed and enters airways.

**ACETONE:**  
 May be harmful if swallowed and enters airways.

**Further information**

**Product:**  
 Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

**Components:**

**ISOPROPANOL:**  
 Remarks: Central nervous system

**Carcinogenicity:**

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### TOLUENE:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l  
Exposure time: 48 h  
Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l  
End point: Growth inhibition  
Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l  
End point: Growth inhibition  
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l  
Exposure time: 40 d  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l  
Exposure time: 7 d

##### ACETONE:

Toxicity to fish : LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 4,740 - 6,330 mg/l  
Exposure time: 96 h  
Test Type: static test

LC 50 (Fathead minnow (Pimephales promelas)): 8,733 - 9,482 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to algae : NOEC (Microcystis aeruginosa): 530 mg/l  
Exposure time: 8 d  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): 2,112 mg/l  
Exposure time: 28 d



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(Chronic toxicity)

Test Type: flow-through test

**METHYL CYCLOHEXANE:**

Toxicity to fish : LC50 (*Oryzias latipes* (Japanese medaka)): 2.07 mg/l  
 Exposure time: 96 h  
 Test Type: semi-static test  
 Method: OECD Test Guideline 203  
 GLP: yes

LC 50 (*Golden shiner* (*Notemigonus crysoleucas*)): 48 - 80 mg/l  
 Exposure time: 96 h  
 Method: Static  
 Remarks: This data record is no longer present in the Ariel database

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 0.326 mg/l  
 Exposure time: 48 h  
 Test Type: semi-static test  
 Method: OECD Test Guideline 202  
 GLP: yes

Toxicity to algae : NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.221 mg/l  
 End point: Growth inhibition  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 GLP: yes

**ISOPROPANOL:**

Toxicity to fish : LC 50 (*Fathead minnow* (*Pimephales promelas*)): 5,770 - 7,450 mg/l  
 Exposure time: 96 h  
 Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC 50 (*Water flea* (*Daphnia magna*)): > 10,000 mg/l  
 Exposure time: 24 h  
 Test Type: static test

**Persistence and degradability**

**Components:**

**TOLUENE:**

Biodegradability : Result: Readily biodegradable

**ACETONE:**

Biodegradability : Result: Readily biodegradable  
 Biodegradation: 90.9 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301B

**METHYL CYCLOHEXANE:**

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Biodegradability : aerobic  
 Result: Not readily biodegradable.  
 Biodegradation: 0 %  
 Method: OECD Test Guideline 301F

**Bioaccumulative potential**

**Components:**

**TOLUENE:**

Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)  
 Bioconcentration factor (BCF): 94  
 Exposure time: 3 d  
 Concentration: 0.05 mg/l  
 Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

**ACETONE:**

Partition coefficient: n-octanol/water : log Pow: -0.24

**PROPANE:**

Partition coefficient: n-octanol/water : log Pow: 2.36

**METHYL CYCLOHEXANE:**

Partition coefficient: n-octanol/water : log Pow: 3.61

**ISOBUTANE:**

Partition coefficient: n-octanol/water : log Pow: 2.76

**ISOPROPANOL:**

Partition coefficient: n-octanol/water : log Pow: 0.05

**Mobility in soil**

**Components:**

No data available

**Other adverse effects**

No data available

**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

**Components:**

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

### SECTION 14. TRANSPORT INFORMATION

#### International transport regulations

##### REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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#### U.S. DOT - ROAD

UN	1950	Aerosols	2.1		
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#### U.S. DOT - RAIL

UN	1950	Aerosols	2.1		
----	------	----------	-----	--	--

#### U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1		
----	------	----------	-----	--	--

#### TRANSPORT CANADA - ROAD

UN	1950	AEROSOLS	2.1		
----	------	----------	-----	--	--

#### TRANSPORT CANADA - RAIL

UN	1950	AEROSOLS	2.1		
----	------	----------	-----	--	--

#### TRANSPORT CANADA - INLAND WATERWAYS

UN	1950	AEROSOLS	2.1		
----	------	----------	-----	--	--

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**INTERNATIONAL MARITIME DANGEROUS GOODS**

UN	1950	AEROSOLS	2.1

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

UN	1950	Aerosols, flammable	2.1

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

UN	1950	Aerosols, flammable	2.1

**MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES**

UN	1950	AEROSOLS	2

\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**SECTION 15. REGULATORY INFORMATION**

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
TOLUENE	108-88-3	1000	3124.912112

**SARA 311/312 Hazards** : Chronic Health Hazard  
Acute Health Hazard  
Fire Hazard

**SARA 313 Component(s)**

TOLUENE	108-88-3	32.00 %
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**California Prop 65** WARNING! This product contains a chemical known to the State of California to cause cancer.

CHLOROFORM	67-66-3
BENZENE	71-43-2

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ETHYL BENZENE 100-41-4

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

TOLUENE 108-88-3

CHLOROFORM 67-66-3

BENZENE 71-43-2

**The components of this product are reported in the following inventories:**

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL.
- AUSTR : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory
- KECL : On the inventory, or in compliance with the inventory
- PICCS : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**Further information**

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<p><b>NFPA:</b></p> <div style="text-align: center;"> <p>Flammability</p> <p>Health      Instability</p> <p>Special hazard.</p> </div>	<p><b>HMIS III:</b></p> <table border="1" style="width: 100%;"> <tr> <td style="background-color: blue; color: white;"><b>HEALTH</b></td> <td style="text-align: center;"><b>2*</b></td> </tr> <tr> <td style="background-color: red; color: white;"><b>FLAMMABILITY</b></td> <td style="text-align: center;"><b>3</b></td> </tr> <tr> <td style="background-color: yellow;"><b>PHYSICAL HAZARD</b></td> <td style="text-align: center;"><b>0</b></td> </tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	<b>HEALTH</b>	<b>2*</b>	<b>FLAMMABILITY</b>	<b>3</b>	<b>PHYSICAL HAZARD</b>	<b>0</b>
<b>HEALTH</b>	<b>2*</b>						
<b>FLAMMABILITY</b>	<b>3</b>						
<b>PHYSICAL HAZARD</b>	<b>0</b>						

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### NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IA

### Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Sources of key data used to compile the Safety Data Sheet

Ashland internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

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STOT : Specific Target Organ Toxicity  
 TLV : Threshold Limit Value  
 TWA : Time-weighted average  
 vPvB : Very Persistent and Very Bioaccumulative  
 WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act  
 DOT : Department of Transportation  
 FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act  
 HMIRC : Hazardous Materials Information Review Commission  
 HMIS : Hazardous Materials Identification System  
 NFPA : National Fire Protection Association  
 NIOSH : National Institute for Occupational Safety and Health  
 OSHA : Occupational Safety and Health Administration  
 PMRA : Health Canada Pest Management Regulatory Agency  
 RTK : Right to Know  
 WHMIS : Workplace Hazardous Materials Information System