

# Material Safety Data Sheet



Activator

## 1. Product and company identification

<b>Product name</b>	: Activator
<b>Supplier</b>	: Same as manufacturer.
<b>Synonym</b>	: Not available.
<b>Trade name</b>	: Activator/Hardner
<b>Material uses</b>	: Other non-specified industry: Cement Adhesive
<b>Manufacturer</b>	: Tech International, 200 E. Coshocton St., Johnstown, Ohio 43031, 1-740-967-9015; Chemtrec 1-800-424-9300
<b>Code</b>	: 968F/15CC, 968F/30CC, 968F/60CC
<b>MSDS #</b>	: 968F/15CC, 968F/30CC, 968F/60CC
<b>Validation date</b>	: 4/10/2014.
<b>Print date</b>	: 4/10/2014.
<b><u>In case of emergency</u></b>	: Chemtrec 1-800-424-9300 (24hrs) CHEMTREC Brazil (Rio De Janeiro): +(55)-2139581449 CHEMTREC Mexico: 01-800-681-9531 CHEMTREC Russia: 8-800-100-6346
<b>Product type</b>	: Liquid.

## 2. Hazards identification

### Emergency overview

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Yellow or brown.
<b>Odor</b>	: ester [Strong]
<b>Signal word</b>	: DANGER!
<b>Hazard statements</b>	: FLAMMABLE LIQUID AND VAPOR. CAUSES DIGESTIVE TRACT BURNS. HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
<b>Precautionary measures</b>	: Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Keep container tightly closed. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

<b>Inhalation</b>	: Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: Toxic if swallowed. Corrosive to the digestive tract. Causes burns.
<b>Skin</b>	: Slightly irritating to the skin.
<b>Eyes</b>	: Slightly irritating to the eyes.

### Potential chronic health effects

<b>Chronic effects</b>	: May cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<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.

## 2. Hazards identification

**Target organs** : May cause damage to the following organs: kidneys.  
Contains material which may cause damage to the following organs: blood, liver, upper respiratory tract, skin, adrenal, central nervous system (CNS), eye, lens or cornea.

### Over-exposure signs/symptoms

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

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

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

## 3. Composition/information on ingredients

Name	CAS number	%
ethyl acetate	141-78-6	50 - 100
chlorobenzene	108-90-7	0 - 5

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.

## 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**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 immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## 5. Fire-fighting measures

**Flammability of the product** : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

### 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** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides  
phosphorus oxides  
halogenated compounds  
carbonyl halides

**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.

**Special remarks on fire hazards** : Not available.

**Special remarks on explosion hazards** : Not available.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. 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). 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.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). 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. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. 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. 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 (see Section 10) 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.

## 8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		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
ethyl acetate	US ACGIH 3/2012	400	1440	-	-	-	-	-	-	-	[3]
	AB 4/2009	400	1440	-	-	-	-	-	-	-	
	BC 4/2012	150	-	-	-	-	-	-	-	-	
	ON 7/2010	400	1440	-	-	-	-	-	-	-	
	QC 9/2011	400	14	-	40	-	-	-	-	-	
chlorobenzene	US ACGIH 3/2012	10	46	-	-	-	-	-	-	-	
	AB 4/2009	10	46	-	-	-	-	-	-	-	
	BC 4/2012	10	-	-	-	-	-	-	-	-	
	ON 7/2010	10	46	-	-	-	-	-	-	-	
	QC 9/2011	50	230	-	-	-	-	-	-	-	

[3]Skin sensitization

### Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, 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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

- 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

- Hygiene measures** : 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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

## 8. Exposure controls/personal protection

<b>Respiratory</b>	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.
<b>Hands</b>	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
<b>Eyes</b>	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
<b>Skin</b>	: 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
<b>Environmental exposure controls</b>	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
<b>Other protection</b>	: Not available.
<b>Personal protective equipment (Pictograms)</b>	: Not available.

## 9. Physical and chemical properties

<b>Physical state</b>	: Liquid.
<b>Flash point</b>	: Closed cup: -4°C (24.8°F)
<b>Burning time</b>	: Not applicable.
<b>Burning rate</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: 460°C (860°F)
<b>Flammable limits</b>	: Lower: 1.3% Upper: 7.1%
<b>Color</b>	: Yellow or brown.
<b>Odor</b>	: ester [Strong]
<b>Taste</b>	: Not available.
<b>Molecular weight</b>	: Not applicable.
<b>Molecular formula</b>	: Not applicable.
<b>pH</b>	: Not applicable.
<b>Boiling/condensation point</b>	: 77°C (170.6°F)
<b>Melting/freezing point</b>	: Not available.
<b>Critical temperature</b>	: Not available.
<b>Relative density</b>	: 1
<b>Vapor pressure</b>	: 12.9 kPa (97 mm Hg) [room temperature]
<b>Vapor density</b>	: >1 [Air = 1]

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# 9. Physical and chemical properties

<b>Volatility</b>	: 73% (v/v)
<b>Odor threshold</b>	: Not available.
<b>Evaporation rate</b>	: <1 (ether (anhydrous) = 1)
<b>SADT</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): 3 mPa·s (3 cP)
<b>Ionicity (in water)</b>	: Not available.
<b>Dispersibility properties</b>	: Not available.
<b>Solubility</b>	: Not available.
<b>Physical/chemical properties comments</b>	: Not available.

# 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. Do not allow vapor to accumulate in low or confined areas.
<b>Incompatible materials</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.

# 11. Toxicological information

## Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
chlorobenzene	LD50 Dermal	Rabbit	>7940 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-

**Conclusion/Summary** : Not available.

## Chronic toxicity

Not available.

**Conclusion/Summary** : Not available.

## Irritation/Corrosion

Not available.

**Conclusion/Summary** : Not available.

## Sensitizer

Not available.

**Conclusion/Summary** : Not available.

## Carcinogenicity

Not available.

**Conclusion/Summary** : Not available.

## Classification

**Activator****11. Toxicological information**

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
ethyl acetate	A4	-	-	-	-	-
chlorobenzene	A3	-	-	-	-	-

**Mutagenicity**

Not available.

**Conclusion/Summary** : Not available.**Teratogenicity**

Not available.

**Conclusion/Summary** : Not available.**Reproductive toxicity**

Not available.

**Conclusion/Summary** : Not available.**Synergistic products** : Not available.**12. Ecological information****Ecotoxicity** : No known significant effects or critical hazards.**Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
ethyl acetate	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 212500 to 225420 µg/l Fresh water	Fish - Heteropneustes fossilis	96 hours
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
chlorobenzene	Acute EC50 19.6 mg/l Fresh water	Algae - Phaeodactylum tricornutum	72 hours
	Acute EC50 12500 µg/l	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 7900 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11500 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2370 to 2860 µg/l Fresh water	Fish - Carassius auratus - Egg	96 hours
	Chronic NOEC 100000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 2 mg/kg Fresh water	Fish - Carassius auratus	30 days

**Conclusion/Summary** : Not available.**Persistence/degradability**

Not available.

**Conclusion/Summary** : Not available.**Partition coefficient: n-octanol/water** : Not available.**Bioconcentration factor** : Not available.**Mobility** : Not available.

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## 12. Ecological information

**Toxicity of the products of biodegradation** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Waste stream** : Not available.

**RCRA classification** : Not available.




**United States - RCRA Toxic hazardous waste "U" List**

Ingredient	CAS #	Status	Reference number
Ethyl acetate (I); Acetic acid ethyl ester (I)	141-78-6	Listed	U112
Chlorobenzene; Benzene, chloro-	108-90-7	Listed	U037

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.




## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	1173	(ethyl acetate, chlorobenzene)	3	II		<b>Reportable quantity</b> 6666.7 lbs / 3026.7 kg [799.56 gal / 3026.7 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
<b>TDG Classification</b>	1173	(ethyl acetate, chlorobenzene)	3	II		-
<b>Mexico Classification</b>	1173	(ethyl acetate, chlorobenzene)	3	II		-



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## 14. Transport information

<b>ADR/RID Class</b>	1173	(ethyl acetate, chlorobenzene)	3	II		-
<b>IMDG Class</b>	1173	(ethyl acetate, chlorobenzene)	3	II		-
<b>IATA-DGR Class</b>	1173	(ethyl acetate, chlorobenzene)	3	II		-

PG\* : Packing group

## 15. Regulatory information

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

**WHMIS (Canada)** : Class B-2: Flammable liquid  
Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

### Canadian lists

**Canadian NPRI** : The following components are listed: Ethyl acetate; Chlorobenzene

**CEPA Toxic 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**: All components are listed or exempted.
- Korea inventory**: All components are listed or exempted.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- Philippines inventory (PICCS)**: All components are listed or exempted.
- Taiwan inventory (CSNN)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : FLAMMABLE LIQUID AND VAPOR. CAUSES DIGESTIVE TRACT BURNS. HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

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

Health	2
Flammability	3
Physical hazards	1

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.

**References** : Not available.

**Other special considerations** : Not available.

**Date of printing** : 4/10/2014.

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**Version** : 0.02

**Prepared by** : Not available.

☑ Indicates information that has changed from previously issued version.

### 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.