



Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

- Product Name** • **Universal Touch-Up Pen**
Product Code • 13202

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified use(s)** • For touching up scratches on firearm metal parts

1.3 Details of the supplier of the safety data sheet

- Manufacturer** • Birchwood Casey, LLC
 7887 Fuller Road, Suite 100
 Eden Prairie, MN 55344
 United States
 www.birchwoodcasey.com
Telephone (General) • 952-388-6717

1.4 Emergency telephone number

- Manufacturer** • 1-800-424-9300 - CHEMTREC

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
 According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

- CLP** • Classifications provided are applicable to the solution in the marker
 Flammable Liquids 2 - H225
 Acute Toxicity Oral 4 - H302
 Skin Irritation 2 - H315
 Serious Eye Damage 1 - H318
 Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
 Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
- DSD/DPD** • Classifications provided are applicable to the solution in the marker
 Flammable
 Irritant (Xi)
 R11, R22, R37/38, R41, R67

2.2 Label Elements

- CLP**
- DANGER**



- Hazard statements**
- H225 - Highly flammable liquid and vapour
 - H302 - Harmful if swallowed
 - H315 - Causes skin irritation
 - H318 - Causes serious eye damage
 - H335 - May cause respiratory irritation
 - H336 - May cause drowsiness or dizziness

Precautionary statements

- Prevention**
- P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
 - P233 - Keep container tightly closed.
 - P240 - Ground and/or bond container and receiving equipment.
 - P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
 - P242 - Use only non-sparking tools.
 - P243 - Take precautionary measures against static discharge.
 - P261 - Avoid breathing mist/vapours/spray.
 - P264 - Wash thoroughly after handling.
 - P270 - Do not eat, drink or smoke when using this product.
 - P271 - Use only outdoors or in a well-ventilated area.
 - P280 - Wear protective gloves/protective clothing/eye protection/face protection.

- Response**
- P370+P378 - In case of fire: Use appropriate media for extinction.
 - P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 - P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P321 - Specific treatment, see supplemental first aid information.
 - P362 - Take off contaminated clothing and wash before reuse.
 - P332+P313 - If skin irritation occurs: Get medical advice/attention.
 - P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P310 - Immediately call a POISON CENTER or doctor/physician.
 - P301+P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
 - P330 - Rinse mouth.

- Storage/Disposal**
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 - P235 - Keep cool.
 - P405 - Store locked up.
 - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



- Risk phrases**
- R11 - Highly flammable.
 - R22 - Harmful if swallowed.
 - R37/38 - Irritating to respiratory system and skin.
 - R41 - Risk of serious damage to eyes.
 - R67 - Vapours may cause drowsiness and dizziness.

- Safety phrases**
- S9 - Keep container in a well ventilated place
 - S16 - Keep away from sources of ignition - No Smoking.
 - S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - S39 - Wear eye/face protection.

2.3 Other Hazards

- CLP**
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

- DSD/DPD**
- According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Classifications provided are applicable to the solution in the marker
 - Flammable Liquids 2
 - Acute Toxicity Oral 4
 - Skin Irritation 2
 - Eye Irritation 2
 - Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
 - Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements**
- Highly flammable liquid and vapour
 - Harmful if swallowed
 - Causes skin irritation
 - Causes serious eye irritation
 - May cause respiratory irritation
 - May cause drowsiness or dizziness

Precautionary statements

- Prevention**
- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
 - Keep container tightly closed.
 - Ground and/or bond container and receiving equipment.
 - Use explosion-proof electrical/ventilating/lighting/equipment.
 - Use only non-sparking tools.
 - Take precautionary measures against static discharge.
 - Avoid breathing mist/vapours/spray.
 - Wash thoroughly after handling.
 - Do not eat, drink or smoke when using this product.
 - Use only outdoors or in a well-ventilated area.
 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response**
- In case of fire: Use appropriate media for extinction.
 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - Call a POISON CENTER or doctor/physician if you feel unwell.
 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - Specific treatment, see supplemental first aid information.
 - If on skin: Wash with plenty of water .
 - If skin irritation occurs: Get medical advice/attention.
 - Take off contaminated clothing and wash before reuse.
 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - Immediately call a POISON CENTER or doctor/physician.
 - If eye irritation persists: Get medical advice/attention.
 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
 - Rinse mouth.
- Storage/Disposal**
- Store in a well-ventilated place. Keep container tightly closed.
 - Keep cool.
 - Store locked up.
 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Classifications provided are applicable to the solution in the marker
Flammable Liquids - B2
Other Toxic Effects - D2B

2.2 Label elements

WHMIS



- Flammable Liquids - B2
Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Butyl alcohol	CAS:71-36-3 EC Number:200-751-6 EU Index:603-004-00-6	0% TO 100%	Skin-Rabbit LD50 • 3400 mg/kg Ingestion/Oral-Rat LD50 • 0.79 g/kg Inhalation-Rat LC50 • >8000 ppm 4 Hour(s)	EU DSD/DPD: EU CLP, Annex VI, Table 3.2: R10; Xn, R22; Xi, R37/38, R41; R67 EU CLP: Annex VI, Table 3.1: Flam. Liq. 3, H226; Acute Tox. 4, H302; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Dam. 1, H318; STOT SE 3, H336; OSHA HCS 2012: Flam. Liq. 3; Eye Irrit. 2; Skin Irrit. 2; Acute Tox. 4 (orl); STOT SE 3: Resp. Irrit.; STOT SE 3: Narc.	NDA
Propyl alcohol	CAS:71-23-8 EC Number:200-746-9 EU Index:603-003-00-0	0% TO 100%	Ingestion/Oral-Rat LD50 • 1870 mg/kg Skin-Rabbit LD50 • 5040 mg/kg	EU DSD/DPD: EU CLP, Annex VI, Table 3.2: F, R11; Xi, R41; R67 EU CLP: Annex VI, Table 3.1: Flam. Liq. 2, H225; Eye Dam. 1, H318; STOT SE 3 H336 OSHA HCS 2012: Flam. Liq. 2; STOT SE 3: Resp. Irrit.; STOT SE 3: Narc.; Eye Irrit. 2; Acute Tox. 4 (oral)	NDA
	CAS:123-42-2				

2-Pentanone, 4-hydroxy-4-methyl-	EC Number: 204-626-7 EU Index: 603-016-00-1	0% TO 100%	Skin-Rabbit LD50 • 13500 mg/kg Ingestion/Oral-Rat LD50 • 4000 mg/kg	EU DSD/DPD: EU CLP, Annex VI, Table 3.2: Xi, R36 EU CLP: EU CLP, Annex VI, Table 3.1: Eye Irrit. 2, H319 OSHA HCS 2012: STOT SE 3: Narc.; Eye Irrit. 2	NDA
Dye	NDA	0% TO 100%	NDA	EU DSD/DPD: Data lacking EU CLP: Data lacking OSHA HCS 2012: Data lacking	NDA
Ethanol	CAS: 64-17-5 EC Number: 200-578-6 EU Index: 603-002-00-5	0% TO 100%	Ingestion/Oral-Rat LD50 • 7060 mg/kg Inhalation-Rat LC50 • 5900 mg/m ³ 6 Hour(s)	EU DSD/DPD: EU CLP, Annex VI, Table 3.2: F, R11 EU CLP: EU CLP, Annex VI, Table 3.1: Flam. Liq. 2, H225 OSHA HCS 2012: Flam. Liq. 2; Eye Irrit. 2	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- Wash skin with soap and water. If irritation develops and persists, get medical attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

- Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- Foam, dry chemical, carbon dioxide or any Class B extinguishing agent.

Unsuitable Extinguishing Media

- Water may be unsuitable as an extinguishing medium, but helpful in keeping adjacent containers cool.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Containers may explode when heated.
Vapor explosion hazard indoors, outdoors or in sewers.
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
Many liquids are lighter than water.
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Runoff to sewer may create fire or explosion hazard.
Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

- No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk. LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Do not walk through spilled material.
- Emergency Procedures** • Use normal clean up procedures.

6.2 Environmental precautions

- No special environmental precautions necessary.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures** • Pick up markers and wipe up liquid with absorbent material.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling** • Use good safety and industrial hygiene practices. Keep away from heat and ignition sources. Avoid contact with skin and eyes. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

- Storage** • Keep cap on marker when not in use. Do not store where temperature may exceed 120°F

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	Germany DFG
Propyl alcohol (71-23-8)	STELs	Not established	Not established	250 ppm STEV; 614 mg/m3 STEV	300 mg/m3 STEL	Not established
	TWAs	100 ppm TWA	100 ppm TWA	200 ppm TWAEV; 492 mg/m3 TWAEV	200 mg/m3 TWA	Not established
Butyl alcohol (71-36-3)	STELs	Not established	Not established	Not established	150 mg/m3 STEL	Not established
	TWAs	20 ppm TWA	20 ppm TWA	Not established	100 mg/m3 TWA	Not established
	Ceilings	Not established	Not established	50 ppm Ceiling; 152 mg/m3 Ceiling	Not established	100 ppm Peak; 310 mg/m3 Peak
	MAKs	Not established	Not established	Not established	Not established	100 ppm TWA MAK; 310 mg/m3 TWA

						MAK
2-Pentanone, 4-hydroxy-4-methyl- (123-42-2)	STELs	Not established	Not established	Not established	360 mg/m3 STEL	Not established
	TWAs	50 ppm TWA	50 ppm TWA	50 ppm TWAEV; 238 mg/m3 TWAEV	240 mg/m3 TWA	Not established
	Ceilings	Not established	Not established	Not established	Not established	40 ppm Peak; 192 mg/m3 Peak
	MAKs	Not established	Not established	Not established	Not established	20 ppm TWA MAK; 96 mg/m3 TWA MAK
Ethanol (64-17-5)	STELs	1000 ppm STEL	1000 ppm STEL	Not established	Not established	Not established
	TWAs	Not established	Not established	1000 ppm TWAEV; 1880 mg/m3 TWAEV	Not established	Not established
	Ceilings	Not established	Not established	Not established	Not established	1000 ppm Peak; 1920 mg/m3 Peak
	MAKs	Not established	Not established	Not established	Not established	500 ppm TWA MAK; 960 mg/m3 TWA MAK

Exposure Limits/Guidelines (Con't.)

	Result	Germany TRGS	NIOSH	OSHA
Propyl alcohol (71-23-8)	TWAs	Not established	200 ppm TWA; 500 mg/m3 TWA	200 ppm TWA; 500 mg/m3 TWA
	STELs	Not established	250 ppm STEL; 625 mg/m3 STEL	Not established
Butyl alcohol (71-36-3)	TWAs	100 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 310 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1)	Not established	100 ppm TWA; 300 mg/m3 TWA
	Ceilings	Not established	50 ppm Ceiling; 150 mg/m3 Ceiling	Not established
2-Pentanone, 4-hydroxy-4-methyl- (123-42-2)	TWAs	20 ppm TWA AGW (exposure factor 2); 96 mg/m3 TWA AGW (exposure factor 2)	50 ppm TWA; 240 mg/m3 TWA	50 ppm TWA; 240 mg/m3 TWA
Ethanol (64-17-5)	TWAs	500 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 960 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values	1000 ppm TWA; 1900 mg/m3 TWA	1000 ppm TWA; 1900 mg/m3 TWA

are observed,
exposure factor 2)

Exposure Control Notations

Canada Quebec

- Butyl alcohol (71-36-3): **Skin:** (Skin designation)
- Propyl alcohol (71-23-8): **Skin:** (Skin designation)

ACGIH

- Propyl alcohol (71-23-8): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Ethanol (64-17-5): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)

Germany TRGS

- 2-Pentanone, 4-hydroxy-4-methyl- (123-42-2): **Skin:** (skin notation)

Germany DFG

- Butyl alcohol (71-36-3): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- 2-Pentanone, 4-hydroxy-4-methyl- (123-42-2): **Pregnancy:** (classification not yet possible) | **Skin:** (skin notation)
- Ethanol (64-17-5): **Carcinogens:** (Category 5 (low carcinogenic potency)) | **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

Exposure Limits Supplemental

ACGIH

- Butyl alcohol (71-36-3): **TLV Basis - Critical Effects:** (eye and upper respiratory tract irritation)
- Propyl alcohol (71-23-8): **TLV Basis - Critical Effects:** (eye and upper respiratory tract irritation)
- 2-Pentanone, 4-hydroxy-4-methyl- (123-42-2): **TLV Basis - Critical Effects:** (eye and upper respiratory tract irritation)
- Ethanol (64-17-5): **TLV Basis - Critical Effects:** (upper respiratory tract irritation)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- No respiratory protection should be needed during normal use.

Eye/Face

- No eye protection needed under normal conditions of use.

Skin/Body

- No skin protection should be needed during normal use.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

STEV = Short Term Exposure Value

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description

Physical Form	Liquid	Appearance/Description	Marker containing liquid with alcohol odor.
Color	Data lacking	Odor	Alcohol
Odor Threshold	Data lacking		

General Properties

Boiling Point	Data lacking	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		

Volatility

Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking	Volatiles (Vol.)	90 %

Flammability

Flash Point	66 F(18.8889 C) CC (Closed Cup)	UEL	7 %
LEL	1 %	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		

Environmental

Octanol/Water Partition coefficient	Data lacking		
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9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- No data available.

10.5 Incompatible materials

- Strong oxidizers, reducing agents.

10.6 Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide, carbon dioxide, sulfur oxides.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Butyl alcohol (0% TO 100%)	71-36-3	Acute Toxicity: Ingestion/Oral-Rat LD50 • 790 mg/kg; <i>Liver:Fatty liver degeneration; Kidney, Ureter, and Bladder:Other changes; Blood:Other changes;</i> Inhalation-Rat LC50 • >8000 ppm 4 Hour(s); Irritation: Eye-Rabbit • 2 mg 24 Hour(s) • Severe irritation; Skin-Human • 20 µL 20 Minute(s); Reproductive: Inhalation-Rat TClO • 6000 ppm (1-20D preg); <i>Reproductive Effects:Effects on Newborn:Biochemical and metabolic; Reproductive Effects:Effects on Newborn:Behavioral</i>
Propyl alcohol (0% TO 100%)	71-23-8	Acute Toxicity: Ingestion/Oral-Rat LD50 • 1870 mg/kg; Skin-Rabbit LD50 • 5040 mg/kg; Irritation: Eye-Rabbit • 20 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 mg-Open • Mild irritation; Reproductive: Inhalation-Rat TClO • 7000 ppm 7 Hour(s)(1-19D preg); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus)</i>

2-Pentanone, 4-hydroxy-4-methyl- (0% TO 100%)	123-42-2	Acute Toxicity: Ingestion/Oral-Rat LD50 • 4000 mg/kg; Behavioral:General anesthetic; Behavioral:Somnolence (general depressed activity); Lungs, Thorax, or Respiration:Respiratory depression; Skin-Rabbit LD50 • 13500 mg/kg; Irritation: Eye-Human • 100 ppm 15 Minute(s); Skin-Rabbit • 500 mg-Open • Mild irritation
Ethanol (0% TO 100%)	64-17-5	Acute Toxicity: Ingestion/Oral-Rat LD50 • 7060 mg/kg; Lungs, Thorax, or Respiration:Other changes; Inhalation-Rat LC50 • 124700 mg/m ³ 4 Hour(s); Irritation: Eye-Rabbit • 500 mg • Severe irritation; Skin-Rabbit • 400 mg-Open • Mild irritation; Reproductive: Ingestion/Oral-Rat TDLo • 322 g/kg (35D male); Reproductive Effects:Paternal Effects:Spermatogenesis; Reproductive Effects:Paternal Effects:Testes, epididymis, sperm duct; Ingestion/Oral-Rat TDLo • 900 mL/kg (19D pre-21D post); Reproductive Effects:Specific Developmental Abnormalities:Central nervous system; Reproductive Effects:Effects on Newborn:Growth statistics (e.g., reduced weight gain); Reproductive Effects:Effects on Newborn:Biochemical and metabolic

GHS Properties	Classification
Acute toxicity	EU/CLP • Acute Toxicity - Oral 4 OSHA HCS 2012 • Acute Toxicity - Oral 4
Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Carcinogenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	EU/CLP • Skin Irritation 2 OSHA HCS 2012 • Skin Irritation 2
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-SE	EU/CLP • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Serious eye damage/Irritation	EU/CLP • Serious Eye Damage 1 OSHA HCS 2012 • Eye Irritation 2

Potential Health Effects

Inhalation

Acute (Immediate)

- May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)

- No data available.

Skin

Acute (Immediate)

- Causes skin irritation.

Chronic (Delayed)

- No data available.

Eye

- Acute (Immediate)**
 - Causes serious eye damage.
- Chronic (Delayed)**
 - No data available.

Ingestion

- Acute (Immediate)**
 - Harmful if swallowed.
- Chronic (Delayed)**
 - No data available.

Key to abbreviations

LC = Lethal Concentration
 LD = Lethal Dose
 TC = Toxic Concentration
 TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user • None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Fire

State Right To Know				
Component	CAS	MA	NJ	PA
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Yes	Yes	Yes
Butyl alcohol	71-36-3	Yes	Yes	Yes
Ethanol	64-17-5	Yes	Yes	Yes
Propyl alcohol	71-23-8	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Yes	No	Yes	Yes	No
Butyl alcohol	71-36-3	Yes	No	Yes	Yes	No
Ethanol	64-17-5	Yes	No	Yes	Yes	No
Propyl alcohol	71-23-8	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Yes
Butyl alcohol	71-36-3	Yes
Ethanol	64-17-5	Yes
Propyl alcohol	71-23-8	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Propyl alcohol	71-23-8	B2, D2B
• Butyl alcohol	71-36-3	B2, D2B
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	B3, D2B
• Ethanol	64-17-5	B2, D2B

Canada - WHMIS - Ingredient Disclosure List

• Propyl alcohol	71-23-8	1 %
• Butyl alcohol	71-36-3	1 %
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	1 %
• Ethanol	64-17-5	0.1 %

Environment

Canada - CEPA - Priority Substances List

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Propyl alcohol	71-23-8	F; R11 Xi; R41 R67
• Butyl alcohol	71-36-3	R10 Xn; R22 Xi; R37/38-41 R67
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Xi; R36
• Ethanol	64-17-5	F; R11

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	10%≤C: Xi; R:36
• Ethanol	64-17-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Propyl alcohol	71-23-8	F Xi R:11-41-67 S:(2)-7-16-24-26-39
• Butyl alcohol	71-36-3	Xn R:10-22-37/38-41-67 S:(2)-7/9-13-26-37/39-46
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Xi R:36 S:(2)-24/25
• Ethanol	64-17-5	F R:11 S:(2)-7-16

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Propyl alcohol	71-23-8	S:(2)-7-16-24-26-39
• Butyl alcohol	71-36-3	S:(2)-7/9-13-26-37/39-46
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	S:(2)-24/25
• Ethanol	64-17-5	S:(2)-7-16

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed

• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	5000 lb final RQ; 2270 kg final RQ
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	1.0 % de minimis concentration
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Included in waste stream: F039
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	5.6 mg/L (wastewater); 2.6 mg/kg (nonwastewater)
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - U Series Wastes - Acutely Toxic Wastes & Other Hazardous Characteristics

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	waste number U031 (Ignitable waste)
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	carcinogen, initial date 4/29/11 (in alcoholic beverages)

U.S. - California - Proposition 65 - Developmental Toxicity

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	developmental toxicity, initial date 10/1/87 (in alcoholic beverages)

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Propyl alcohol	71-23-8	Not Listed
• Butyl alcohol	71-36-3	Not Listed
• 2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	Not Listed
• Ethanol	64-17-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

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

Section 16 - Other Information

Relevant Phrases (code & full text)

- H226 - Flammable liquid and vapour
R10 - Flammable.
R36 - Irritating to eyes.

Last Revision Date

- 05/March/2015

Preparation Date

- 05/March/2015

Disclaimer/Statement of Liability

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Key to abbreviations

NDA = No data available