SAFETY DATA SHEET

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1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier
Product Name KEY PR1200

Other means of identification
Product Code(s) PR1200
UN/ID no. UN1170
Product Technology Solvent
None
FOR INDUSTRIAL USE ONLY.
Restrictions on use: Do not use this product for any use other than intended
Manufacturer Address
Key Polymer Corporation
17 Shepard Street
Lawrence, MA 01843, USA
Company Phone Number 978-683-9411 (8AM - 5PM EST) (M-F)
Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)
Chemtrec International Phone +1 703 527-3887

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 4
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1 (respiratory tract) (Optic Nerve) (Central Nervous System)
Specific target organ toxicity (repeated exposure)	Category 2
Flammable Liquids	Category 2

Emergency Overview

DANGER

Hazard statements
Harmful if swallowed
Toxic in contact with skin
Harmful if inhaled
Causes serious eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Causes damage to organs
May cause damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Appearance Clear Water white **Physical state** Liquid **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust, fumes, or vapors
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

Precautionary Statements - Response
IF exposed: Call a POISON CENTER or doctor/physician
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 skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)

Other Information

Toxic to aquatic life with long lasting effects
96.84357% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Chemical nature Organic solvents and additives.

Chemical name	CAS No.	Weight-%	Trade secret
ethanol	64-17-5	70 - 90	*
Methanol	67-56-1	1 - 5	*
4-Methyl-2-pentanone	108-10-1	<1.0	*
Petroleum Ether	64742-89-8	<1.0	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures

Description of first aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Use first aid treatment according to the nature of the injury.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical attention/advice.

Ingestion Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Rinse mouth.

Self-protection of the first aider First Aider: Pay attention to self-protection. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media
Use CO2, dry chemical, or foam

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient. Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Alcohols burn with a pale blue flame which may be extremely hard to see under normal lighting conditions. Personnel may only be able to feel the heat of the fire without seeing flames.

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Ventilate affected area. Use personal protective equipment as required. Use personal protection recommended in Section 8.

Other Information Use personal protective equipment as required. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

For Emergency Responders Use personal protective equipment as required.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information. Do not allow into any sewer, on the ground or into any body of water. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling All equipment used when handling the product must be grounded. Handle in accordance with good industrial hygiene and safety practice. Use spark-proof tools and explosion-proof equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static

electricity). Store locked up. Store in accordance with the particular national regulations. Use spark-proof tools and explosion-proof equipment. Protect from moisture.

Incompatible materials Strong oxidizing agents. Organic peroxides, flammable solids, pyrophoric liquids and solids, Self-heating substances, Substances and mixtures which in contact with water emit flammable gases, explosives, and gases.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³
4-Methyl-2-pentanone 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m³ (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m³ (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 300 mg/m³

Appropriate engineering controls

Engineering controls Use explosion-proof mechanical ventilation and local exhaust to control contaminants to within their occupational exposure limits during the use of this product. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear fire/flame resistant/retardant clothing. Wear antistatic, impervious, flame retardant gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General hygiene considerations Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Clear	**Odor**	Solvent
Color	Water white	**Odor threshold**	N/A

Property	Values	Remarks • Method
pH	N/A	
Melting point / freezing point	N/A -114 °C	
Boiling point / boiling range	78 °C	
Flash point	16 °C	
Evaporation rate	Faster than n-butyl acetate	
Flammability (solid, gas)	N/A	
Flammability Limit in Air		
Upper flammability limit:	19% by volume	
Lower flammability limit:	3.3 % by volume	
Vapor pressure	44 mmHg @ 20°C	
Vapor density	Heavier than air	
Relative density	0.78	
Water solubility	Soluble in water	
Solubility in other solvents	N/A	
Partition coefficient	N/A	
Autoignition temperature	363 °C	
Decomposition temperature	N/A	
Kinematic viscosity	N/A cSt	
Dynamic viscosity	N/A cps @ 25° C	
Explosive properties	N/A	
Oxidizing properties	N/A	

Other Information

Softening point	N/A
Molecular weight	N/A
VOC Content (%)	N/A
Liquid Density	6.5 pounds/gallon
Bulk density	N/A

10. Stability and Reactivity

Reactivity

No dangerous reaction is known under normal use and storage conditions.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
Highly flammable liquid and vapor. Vapors may for explosive mixture with air. Use at elevated temperatures may for highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated temperatures.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid
Heat, flames and sparks. Take precautionary measures against static discharges. Avoid moisture.

Incompatible materials
Strong oxidizing agents. Organic peroxides, flammable solids, pyrophoric liquids and solids, Self-heating substances, Substances and mixtures which in contact with water emit flammable gases, explosives, and gases.

Hazardous decomposition products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological Information

Information on likely routes of exposure

Product Information The product has not been tested

Inhalation Harmful by inhalation.

Eye contact Contact with eyes may cause irritation.

Skin contact Irritating to skin. Toxic in contact with skin.

Ingestion Not an expected route of exposure. May be harmful if swallowed.

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
ethanol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h
Methanol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit) = 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
4-Methyl-2-pentanone 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 8.2 mg/L (Rat) 4 h
Petroleum Ether 64742-89-8	-	= 3000 mg/kg (Rabbit)	-

Information on toxicological effects

N/A.

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

Skin corrosion/irritation Irritating to skin. Repeated or prolonged contact may cause skin irritation and dermatitis.
Serious eye damage/eye irritation Irritating to eyes.
Irritation Irritating to eyes and skin.
Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity N/A.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
ethanol 64-17-5	A3	Group 1	Known	X
4-Methyl-2-pentanone 108-10-1	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity May cause genetic defects. May cause harm to the unborn child.
STOT - single exposure May cause disorder and damage to the. Eyes. Skin. Central nervous system. Respiratory System.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. May cause disorder and damage to the. Liver. Kidney.
Chronic Toxicity Repeated contact may cause allergic reactions in very susceptible persons.
Target organ effects Liver, Kidney.
Aspiration hazard N/A.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 96.84357% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (oral) 1,958.00 mg/kg
ATEmix (dermal) 571.00 mg/kg
ATEmix (inhalation-dust/mist) 11.71 mg/l
ATEmix (inhalation-vapor) 79.30 mg/l

12. Ecological Information

Ecotoxicity

Toxic to aquatic life with long lasting effects
10.967554389 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
ethanol 64-17-5		13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static	2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50 9268 - 14221: 48 h Daphnia magna mg/L LC50
Methanol 67-56-1		100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 28200: 96 h Pimephales promelas mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through	
4-Methyl-2-pentanone 108-10-1	400: 96 h Pseudokirchneriella subcapitata mg/L EC50	496 - 514: 96 h Pimephales promelas mg/L LC50 flow-through	170: 48 h Daphnia magna mg/L EC50
Petroleum Ether 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50		

Persistence and degradability
N/A

Chemical name	Partition coefficient
ethanol 64-17-5	-0.32
Methanol 67-56-1	-0.77
4-Methyl-2-pentanone 108-10-1	1.19

Other adverse effects
N/A

13. Disposal Considerations

Waste treatment methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methanol 67-56-1		Included in waste stream: F039		U154
4-Methyl-2-pentanone 108-10-1		Included in waste stream: F039		U161

Chemical name	California Hazardous Waste Status
ethanol 64-17-5	Toxic Ignitable
Methanol 67-56-1	Toxic Ignitable

14. Transport Information

DOT

UN/ID no.	UN1170
Proper shipping name	Ethanol solution
Hazard Class	3
Packing Group	II

ICAO (air)

UN/ID no.	UN1170
Proper shipping name	Ethanol solution
Hazard Class	3
Packing Group	II

IATA

UN/ID no.	UN1170
Proper shipping name	Ethanol solution
Hazard Class	3
Packing Group	II

IMDG

UN/ID no.	UN1170
Proper shipping name	Ethanol solution
Hazard Class	3
Packing Group	II

15. Regulatory Information

International Inventories

TSCA All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

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

US Federal Regulations

SARA 313

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

Chemical name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Methanol - 67-56-1	67-56-1	1 - 5	1.0
4-Methyl-2-pentanone - 108-10-1	108-10-1	<1.0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

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

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methanol 67-56-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
4-Methyl-2-pentanone 108-10-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
ethanol - 64-17-5	Carcinogen Developmental
Methanol - 67-56-1	Developmental
4-Methyl-2-pentanone - 108-10-1	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
ethanol 64-17-5	X	X	X
Methanol 67-56-1	X	X	X
4-Methyl-2-pentanone 108-10-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

NFPA **Health hazards** N/A **Flammability** N/A **Instability** N/A **Physical and chemical properties** -

HMIS **Health hazards** 3* **Flammability** 3 **Physical hazards** 0 **Personal Protection** X

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Prepared By Key Polymer Corp Compliance
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Revision Note

N/A

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet