SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company

1.1 Product identifier

Product Name:
Type KC™ Contact Cleaner Aerosol

Product ID numbers: KC-16, KC-16LA

1.2 Relevant identified uses of the mixture and uses advised against

Identified uses: Contact cleaning

List of advices against: Not applicable.

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer:

American Polywater Corporation
11222 - 60th Street North
Stillwater, MN 55082 USA
Tel: 1-651-430-2270
Email: sds@polywater.com

1.4 Emergency telephone numbers

INFOTRAC 1-352-323-3500 (USA)

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to USA OSHA 29 CFR 1910.1200 (2012) and Canada HPR (SOR/2015-17; WHMIS 2015).

Aerosol 3	H229
Eye Irrit 2B	H320
STOT Se 3 (CNS)	H336

2.2 Label elements

This product is intended for consumer use and is labeled according to CPSC guidelines and not to GHS guidelines listed below. It is safe for consumers and other users under normal and reasonably foreseeable use. The SDS contains valuable information for industrial workplace conditions.

Contains: Ethyl nonafluoroisobutyl ether, Ethyl nonafluorobutyl ether, trans-Dichloroethylene, norflurane

Pictograms:

Signal word: Warning

Hazard Statements:

H229	Pressurized container, may burst if heated
H320	Causes eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary Statements:

P210	Keep away from flames and hot surfaces. No smoking.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray or vapors.

P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical attention.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501	Dispose of contents/container in accordance with local and national regulations.

2.3 Other hazards: No information available.

3. Composition/Information on Ingredients

Component	CAS #	EC #	Wt. %
Ethyl nonafluorobutyl ether	163702-05-4	--	< 30
Ethyl nonafluoroisobutyl ether	163702-06-5	--	< 30
Trans-Dichloroethylene	156-60-5	205-860-2	< 15
1,1,1,2-Tetrafluoroethane	811-97-2	212-377-0	< 30

4. First Aid Measures

4.1 Description of first aid measures

Eye Contact: Flush eyes with clean water. Remove contact lenses if easy to do. Continue rinsing. If irritation persists, seek medical attention.

Skin Contact: Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing): If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention.

Ingestion (Swallowing): Rinse mouth. If you feel unwell, get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Refer to Section 11 for more information.

4.3 Indication of immediate medical attention and special treatment needed.

No information available.

5. Firefighting Measures

5.1 Extinguishing media:

Carbon dioxide, water fog, dry chemical or foam.

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition and by-products:

Burning generates CO, CO_2 and smoke. Smoke may be acrid and fumes irritating.

5.3 Advice for firefighters

Wear full protective clothing, including self-contained, positive pressure or pressure-demand breathing apparatus. Sealed container can build up pressure when exposed to high heat. Use water spray to cool fire exposed containers. Aerosol cans can build up pressure and explode when exposed to temperatures greater than 122°F (50°C).

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Keep away from heat/sparks/open flames/hot surfaces. No smoking. For a spill in a confined space, provide mechanical ventilation to disperse or exhaust vapors. For emergency responders: use respiratory protection: half-face or full-face respirator with filter(s) for organic vapor for spills in a confined space. Refer to other sections of this SDS for information regarding physical and health hazards and personal protective equipment.

6.2 Environmental precautions:

Avoid release to the environment. Dyke the spill to prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods materials for containment and cleaning up:

Absorb spill with sand or absorbents. Collect as much of the spilled material as possible using non-sparking tools and transfer to a container. Seal the container. Remember, adding an absorbent material does not change the toxicity or flammability hazard.

6.4 Reference to other sections:

Refer to Sections 4, 5, 8, and 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Avoid breathing vapors or spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Wash contaminated clothing before reuse. For industrial or professional use only.

7.2 Conditions for safe storage, including incompatibilities

Do not expose container to direct sunlight or temperatures above 122°F (50°C). Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store away from acids and oxidizing agents.

7.3 Specific end uses

See product literature for further information.

8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure limits and recommendations:

Ethyl nonafluorobutyl ether (163702-05-4)

Country/Source	Long-term exposure limit – 8 hr. TWA	Short-term exposure limit – 15 min
Manufacturer, RCP* TWA	200 ppm	--
USA, ACGIH TWA	750 ppm	Not established
USA, OSHA PEL	--	--
Alberta, British Columbia, Quebec, Yukon, Saskatchewan, Ontario*	--	--

Ethyl nonafluoroisobutyl ether (163702-06-5)

Country/Source	Long-term exposure limit – 8 hr. TWA	Short-term exposure limit – 15 min
Manufacturer, RCP* TWA	200 ppm	--
USA, ACGIH TWA	750 ppm	Not established
USA, OSHA PEL	--	--
Alberta, British Columbia, Quebec, Yukon, Saskatchewan, Ontario*	--	--

Trans-Dichloroethylene (156-60-5)

Country/Source	Long-term exposure limit – 8 hr. TWA	Short-term exposure limit – 15 min

USA, ACGIH TWA	200 ppm	
USA, OSHA PEL	790 mg/m^3, 200 ppm	--
Alberta	793 mg/m^3, 200 ppm	--
British Columbia	200 ppm	--
Ontario	200 ppm	--
Quebec	793 mg/m^3, 200 ppm	--
Saskatchewan	200 ppm	250 ppm
Yukon	790 mg/m^3, 200 ppm	1000 mg/m^3, 250 ppm

1,1,1,2-Tetrafluoroethane (811-97-2)

Country/Source	**Long-term exposure limit – 8 hr. TWA**	**Short-term exposure limit – 15 min**
USA, AIHA OEL	1,000 ppm	
USA, OSHA PEL	--	--
Alberta, British Columbia, Quebec, Yukon, Saskatchewan, Ontario*		--

** Manitoba, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island are all based on the current ACGIH TLVs. British Columbia is based on current ACGIH TLV unless otherwise noted. New Brunswick is based on an older version ACGIH. Nunavet and Northwest Territories are based heavily on current ACGIH TLVs.*

8.2 Exposure controls

Respiratory protection:
Normal ventilation is adequate. If exposure exceeds recommended limits, respirator protection is recommended. Use a respirator or gas mask with cartridges for organic vapors (NIOSH or CE approved) with particulate pre-filter, P100 or AP2.

Protective gloves:

No chemical protective gloves are required.

Eye protection:

Safety goggles recommended.

Other protective equipment:
It is suggested that a source of clean water be available in work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. Physical and Chemical

9.1 Information of basic physical and chemical properties (bulk liquid)

Appearance:	Clear, colorless liquid in aerosol package.
Odor threshold:	Not available
pH:	Not available
Freezing point:	Not available
Boiling point:	Not available
Flash point:	None
Evaporation rate:	Not available
Flammability (solid, gas):	Not applicable to liquids
Upper/lower flammability or explosive limits:	LEL = 6.7% UEL = 13.7%
Vapor pressure:	330 mm Hg

Vapor density (Air = 1):	Not available
Specific gravity (H_2O = 1):	1.4
Solubility in water:	Negligible
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	396°C
Decomposition temperature:	Not available
Viscosity:	0.6 centipoise

9.2 Other Information

Volatiles (Weight %): 100%

10. Stability and Reactivity

10.1 Reactivity:

See remaining headings in Section 10.

10.2 Chemical stability:

Stable

10.3 Possibility of hazardous reactions:

None known.

10.4 Conditions to avoid:

High shear, high temperature conditions.

10.5 Incompatible materials :

Aluminum or Magnesium powder.

10.6 Hazardous decomposition products:

Above the boiling point, small amounts of toxic decomposition products may form, including hydrogen fluoride, hydrogen chloride, and perfluoroisobutylene.

11. Toxicological Information

11.1 Information on toxicological effects:

Acute toxicity

Eye contact:

Moderate eye irritant.

Skin contact:

Contact with skin during use is not expected to result in significant irritation. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Irritation and Sensitization Potential:

Product is not a sensitizer.

Inhalation (Breathing):

May cause irritation of the nose and throat. May cause drowsiness or dizziness. Signs/symptoms include cough, sneezing, nasal discharge, headache, hoarseness and nose and throat pain.

Ingestion:

May be harmful if swallowed. Gastrointestinal irritation signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicity to Animals:

Ethyl nonafluorobutyl ether	LD_{50} (oral rat) >2,000 mg/kg
	LC_{50} (inhl rat) >989 mg/L, 4 hours
Ethyl nonafluoroisobutyl ether	LD_{50} (oral rat) >2,000 mg/kg
	LC_{50} (inhl rat) >989 mg/L, 4 hours
	RD_{50} 1000 ppm
Trans-Dichloroethylene	LD_{50} (oral rat) >5,000 mg/kg

	LD_{50} (dermal rabbit) >5,000 mg/kg	
	LC_{50} (inhl rat) 95.6 mg/L, 4 hours	
Norflurane	LC_{50} (inhl rat) >500,000 ppm, 4 hours	

Chronic Exposure:

Reproductive Toxicity:	Not available.	
Ethyl nonafluorobutyl ether	NOAEL 1,000 mg/kg (oral rat, 28 days)	Not toxic to reproduction and/or development
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Not toxic to female reproduction
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Not toxic to male reproduction
	NOAEL 3,000 ppm (inhl rat)	Not toxic to reproduction and/or development
	NOAEL 260.1 mg/l (inhl rat, during gestation)	Not toxic to female reproduction
	NOAEL 263.4 mg/l (inhl rat, 28 days)	Not toxic to male reproduction
	NOAEL 260 mg/l (inhl rat, 28 days)	Some positive developmental data exist, but not sufficient for classification
Ethyl nonafluoroisobutyl ether	NOAEL 1,000 mg/kg (oral rat, 28 days)	Not toxic to reproduction and/or development
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Not toxic to female reproduction
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Not toxic to male reproduction
	NOAEL 3,000 ppm (inhl rat)	Not toxic to reproduction and/or development
	NOAEL 260.1 mg/l (inhl rat, during gestation)	Not toxic to female reproduction
	NOAEL 263.4 mg/l (inhl rat, 28 days)	Not toxic to male reproduction
	NOAEL 260 mg/l (inhl rat, 28 days)	Some positive developmental data exist, but not sufficient for classification
Trans-Dichloroethylene	NOAEL 3,000 mg/kg/day (oral rat, 90 days)	Not toxic to female reproduction
	NOAEL 3,000 mg/kg/day (oral rat, 90 days)	Not toxic to male reproduction
	NOAEL 16 mg/l (inhl rat, 90 days)	Not toxic to female reproduction
	NOAEL 16 mg/l (inhl rat, 90 days)	Not toxic to male reproduction
	NOAEL 24 mg/l (inhl rat, during organogenesis)	Some positive developmental data exist, but not sufficient for classification
Mutagenicity:	Not available.	
Teratogenicity:	Not available.	

Specific Target Organ Toxicity (STOT) – Single Exposure	**Test Parameter**	**Target Organ(s)**	**Value**
Ethyl nonafluorobutyl ether	NOAEL 204 mg/l (inhl dog, 17 mins)	Cardiac sensitization	Some positive data exist, but not sufficient for classification
	NOAEL 989 mg/l (inhl rat, 4 hrs.)	Respiratory irritation	All data negative
Ethyl nonafluoroisobutyl ether	NOAEL 204 mg/l (inhl, dog, 17 mins)	Cardiac sensitization	Some positive data exist, but not sufficient for classification
	NOAEL 989 mg/l (inhl rat, 4 hrs.)	Respiratory irritation	All data negative
Trans-Dichloroethylene	NOAEL not available (inhl human, occupational exposure)	CNS depression	Some positive data exist, but not sufficient for classification

	NOAEL not available (inhl human, occupational exposure)	Respiratory irritation	Some positive data exist, but not sufficient for classification
	LOAEL 4,500 mg/kg (oral rat, not applicable)	CNS depression	May cause drowsiness or dizziness
Norflurane	NOEL 50,000 ppm (inhl, dog)	Cardiac sensitization	All data negative

Specific Target Organ Toxicity (STOT) – Repeated Exposure	**Test Parameter**	**Target Organ(s)**	**Value**
Ethyl nonafluorobutyl ether	NOAEL 263.4 mg/l (inhl rat, 4 weeks)	Liver, kidney and/or bladder, respiratory system	Some positive data exist, but not sufficient for classification
	NOAEL 263.4 mg/l (inhl rat, 4 weeks)	Heart, endocrine system, bone marrow, hematopoietic system, nervous system, immune system	All data negative
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Blood, liver, kidney and/or bladder	Some positive data exist, but not sufficient for classification
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Heart, endocrine system, bone marrow, hematopoietic system, nervous system, immune system	All data negative
Ethyl nonafluoroisobutyl ether	NOAEL 263.4 mg/l (inhl rat, 4 weeks)	Liver, kidney and/or bladder, respiratory system	Some positive data exist, but not sufficient for classification
	NOAEL 263.4 mg/l (inhl rat, 4 weeks)	Heart, endocrine system, bone marrow, hematopoietic system, nervous system, immune system	All data negative
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Blood, liver, kidney and/or bladder	Some positive data exist, but not sufficient for classification
	NOAEL 1,000 mg/kg/day (oral rat, 28 days)	Heart, endocrine system, bone marrow, hematopoietic system, nervous system, immune system	All data negative
Trans-Dichloroethylene	NOAEL 16 mg/l (inhl rat, 90 days)	Endocrine system, liver, kidney and/or bladder, respiratory system	All data negative
	NOAEL 2,000 mg/kg/day (oral rat, 14 weeks)	Kidney and/or bladder	Some positive data exist, but not sufficient for classification
	NOAEL 125 mg/kg/day (oral rat, 14 weeks)	Blood, liver	Some positive data exist, but not sufficient for classification
	NOAEL 2,000 mg/kg/day (oral rat, 28 days)	Heart, immune system, respiratory system	All data negative

Toxicologically Synergistic Products: Not available.

Carcinogenic Status: This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.

12. Ecological Information

12.1 Toxicity:

Ecotoxicity:	No information available.
Aquatic Toxicity:	No information available.
12.2 Persistence and degradability:	No information available.
12.3 Bioaccumulation potential:	No information available
12.4 Mobility in soil:	No information available.
12.5 Results of PBT and vPvB Assessment:	This product is not, nor does it contain a substance that is a PBT or vPvB.
12.6 Other adverse effects:	None known.

13. Disposal Considerations

Dispose of product in accordance with National and Local Regulations.

14. Transport Information

UN Number:	1950
UN Proper shipping name:	AEROSOLS, Nonflammable, less than 1 liter each, Class 2.2, LTD QTY
Transport hazard class(es):	Class 2.2
Packing group:	Not Applicable
Environmental hazards:	None known
Special precautions:	None known
TDG:	Not Regulated
ICAO/IATA-DGR:	Consumer Commodity, ID 8000, Class 9, LTD QTY, Per S.P. A112
IMDG:	UN 1950, AEROSOLS, Nonflammable, less than 1 liter each, Class 2.2, LTD QTY

15. Regulatory Information

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

USA Federal and State
All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	**Acute**	**Chronic**	**Fire**	**Pressure**	**Reactive**
	No	No	Yes	No	No

Components	**CERCLA/SARA Sec 302 Hazardous Substance RQ**	**CERCLA/SARA Sec 302 EHS TPQ**	**SARA Sec. 313 Toxic Release**
Trans-Dichloroethylene	No	No	Yes

NFPA Ratings: Health: 3
Fire: 1
Reactivity: 0

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

California Proposition 65

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm or has been assessed to be below OEHHA Safe Harbor exposure levels required for labeling.

European Union
Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. All components are listed on the European Inventory of Existing Chemical Substances (EINECS). Contains no substance on the REACH candidate list ≥ 0.1% SCL. Does not contain notified substances from the ELINCS List, Directive 92/32/EEC. Contains no REACH substances with Annex XVII restrictions.

Canada
All components are listed on the DSL inventory.

Australia
All components are listed on the AICS.
Hazardous according to criteria of NOHSC Australia.

15.2 Chemical Safety Assessment
No chemical safety assessment has been carried out for the mixture by the supplier.

16. Other Information

Abbreviations and acronyms:
OSHA = Occupational Safety and Health Administration
CLP = Classification, Labeling and Packaging Regulation
STOT = Specific Target Organ Toxicity
LD_{50} = Median Lethal Dose
DNEL = Derived No Effect Level
ACGIH = American Conference of Governmental Industrial Hygienists
TSCA = Toxic Substances Control Act (USA)
DSL = Domestic Substances List (Canada)
AICS = Australian Inventory of Chemical Substances

Revision Date:	May 31, 2023
Revision Number:	**9**
Supersedes:	March 4, 2022
Other:	Not Applicable
Indication of Changes:	Section 14 updated. Written in accordance with the provisions of OSHA 1910.1200 App D (2012) and Canada HPR (SOR/2015-17) (WHMIS 2015). (GHS format)

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.