Safety Data Sheet

Section 1 – Identification of the Mixture and of the Company

Product Identification

Primary Identifier(s) Used on the Label
Berryman *Brake Parts Cleaner*
Product Synonym(s)
blend "5C-4"
Product Number(s)
1420

Relevant Identified Uses and Uses Advised Against

Recommended Uses
brake and brake-related parts cleaning
Uses Advised Against
not for use in some applications or states

Manufacturer/Supplier Details

Berryman Products, Inc.
3800 E Randol Mill Rd
Arlington, TX 76011
(800) 433-1704 (USA/Canada)
(817) 640-2376 (international)
www.BerrymanProducts.com

Emergency 24-Hour Telephone Number(s) – InfoTrac, Inc.

(800) 535-5053 (USA/Canada)
(352) 323-3500 (international)

Section 2 – Hazards Identification

Classification of the Substance or Mixture (29 CFR 1910.1200)

Physical Hazards
Compressed Gas
Health Hazards
Acute Oral – Category 4
Skin Irritant – Category 2
Eye Irritant – Category 2A
Carcinogen – Category 1B
Developmental – Category 2
Specific Target Organ Toxicity - Single Exposure – Category 3 (respiratory tract irritant and narcotic effects)
Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system, central nervous system, liver)
Aspiration Hazard – Category 1
Environmental Hazard - Chronic – Category 3

Allocation of Label Elements

Chemical Identity
Berryman *Brake Parts Cleaner*
Pictograms

Signal Word
DANGER
Hazard Statements
H280 – Contains gas under pressure; may explode if heated.
H302 – Harmful if swallowed.
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H321 – Specific treatment (see supplemental first aid instructions this label/document).
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness.
H350 – May cause cancer.
H361d – Suspected of damaging the unborn child.
H373 – May cause damage to blood/blood system, central nervous system, or liver through prolonged or repeated exposure.
H412 – Harmful to aquatic life with long-lasting effects.
Prevention Precautionary Statements
P101 – Keep out of reach of children.
P102 – Read label before use.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P251 – Do not pierce or burn, even after use.
P260 – Do not breathe fumes, gas, mist, vapor, or 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.
P273 – Avoid release to the environment.
P280 – Wear protective gloves, protective clothing, and eye or face protection.
Response Precautionary Statements
P312 – Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.
P314 – Get medical advice/attention if you feel unwell.
P321 – Specific treatment available in this document in “Section 4 – First Aid Measures.”
P330 – Rinse mouth.
P331 – Do NOT induce vomiting.
P391 – Collect spillage.
P301/P310 – IF SWALLOWED: Immediately call POISON CONTROL CENTER, hospital emergency room, or doctor.
P302/P352 – IF ON SKIN: Wash with plenty of or shower.
P304/P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305/P351/P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308/P313 – If exposed or concerned, get medical advice/attention.
P332/P313 – If skin irritation occurs, get medical advice/attention.
P337/P313 – If eye irritation persists, get medical advice/attention.
P362/364 – Take off contaminated clothing and launder before reuse.
Storage Precautionary Statements
P405 – Store locked-up.
P410/P412 – Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C).
Disposal Precautionary Statements
P501 – Dispose of contents/container in accordance with local, regional, national, and international regulations, as applicable.

Hazards Not Otherwise Classified
none known

Ingredients of unknown acute toxicity
none

Section 3 – Composition/Information on Ingredients

Component	CAS RN	Weight
Methylene Chloride	75-09-2	60-70%
Toluene	108-88-3	15-25%
Perchloroethylene	127-18-4	10-15%
Carbon Dioxide	124-38-9	2-5%

Section 4 – First Aid Measures

Description of First Aid Measures

Ingestion

Immediately call poison control center, hospital emergency room, or doctor. Do NOT induce vomiting. Rinse mouth. Drink 1-2 glasses of milk or water.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin Contact

Wash with plenty of soap and water or shower.

Inhalation

Remove person to fresh air and keep comfortable. If experiencing respiratory symptoms or if breathing is difficult, administer oxygen and call poison control center, hospital emergency room, or doctor.

Most Important Symptoms and Effects

Acute/Immediate

respiratory tract irritation; headache and lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Delayed

drying, cracking, or defatting of the skin

Indications of Need for Immediate Medical Attention and Specific Treatment Required

Indications of Need for Immediate Medical Attention

In the event of shortness of breath, difficulty breathing, spontaneous vomiting, or loss of consciousness, seek immediate medical attention.

Specific Treatment and Notes to Physician

Avoid administration of sympathomimetic drugs, such as epinephrine. If performing lavage, endotracheal and/or esophageal control is recommended. If spontaneous vomiting occurs, keep head below hips to avoid aspiration.

Section 5 – Firefighting Measures

Fire Extinguishing Media

Support for Combustion

Product does not support combustion.

Suitable Extinguishing Media

water fog, dry chemical, alcohol-resistant foam, or carbon dioxide

Unsuitable Extinguishing Media

water jet/spray (may cause fire to spread)

Special Hazards/Considerations

Combustion Products

Combustion in the presence of air may yield hydrocarbons; chlorinated hydrocarbons; organic oxygenates; oxides of carbon and chlorine; phosgene; and hydrochloric acid/hydrogen chloride gas.

Special Protective Equipment and Precautions for Firefighters

Special Protective Equipment

Firefighters should employ SCBA and full protective gear, including shield, as product is comprised of low-boiling solvents and may vent, rupture, or explode violently at elevated temperatures.

Precautions and Procedures

Pressurized container—may burst if heated. Vapors heavier than air. Remove product from area if safe to do so. Use water spray to cool nearby containers.

Section 6 – Accidental Release Measures

Personal and Environmental Precautions

Personal Precautions

Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or 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, and eye or face protection.

Environmental Precautions

Avoid release to the environment. Prevent contamination of ground water.

Materials and Methods for Containment

Small Spills

Use socks/absorbent mini-booms or other inert barrier if necessary to contain small spills.

Large Spills

Use large socks/absorbent booms or other inert barrier to form dam/dike in order to contain large spills and prevent further loss.

Materials and Methods for Cleanup

Small Spills

Remove source from area if safe to do so. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb spilled material. Remediate affected area as necessary.

Large Spills

Keep upwind from spill. Remove source from area if safe to do so. Use mechanical transfer equipment to recover spilled material. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb residual material. Remediate affected area as necessary.

Section 7 – Handling and Storage

Precautions for Safe Handling

Personal Precautions

Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Environmental Precautions

Do not pierce or burn, even after use. Avoid release to the environment.

Conditions and Considerations for Safe Storage

Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 1 recommendations.

Section 8 – Exposure Controls/Personal Protection

Component	CAS RN	OSHA PEL	ACGIH TLV
Methylene Chloride	75-09-2	25 ppm	50 ppm
Toluene	108-88-3	200 ppm	20 ppm
Perchloroethylene	127-18-4	100 ppm	25 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm

Exposure Controls

Appropriate Engineering Controls

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052. If practical, use outside with positive cross-ventilation in order to reduce accumulation of vapor and minimize exposure.

PPE Overview

Hand Protection

Use of chemical-resistant gloves (butyl rubber, EVAL, neoprene, nitrile/Buna-N, PVA, or Viton) is recommended.

Eye Protection

Use of safety glasses with wrap-around lens or goggles is recommended.

Respiratory Protection

If necessary, use respiratory protection sufficient to reduce exposure to permissible limits.

Additional Protection

For industrial settings, access to a chemical safety shower with eye wash station is strongly recommended.

Section 9 – Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State

liquid

Appearance

clear, colorless

Odor

mild, solvent

Odor Threshold

1.6 ppm

pH

not relevant

Freezing Point
< -8°F
Boiling Range
104 - 250°F
Flash Point and Method
none by closed-cup tester
Explosion Limits in Air
8.2 - 16.2% by volume (composite)
Evaporation Rate
5.2 (n-Butyl Acetate=1.0)
Vapor Pressure, as supplied
80-120 PSI (typical)
Vapor Density
>1.0
Specific Gravity
1.212 at 68°F
Density
10.10 lb/gal at 68°F
Water Solubility
not soluble
n-Octanol/Water Partition Coefficient (log P_{ow})
1.8 (composite)
Viscosity
0.5 cSt at 68°F
Volatility
100% by weight
Auto-ignition temperature
880°F (composite)
Decomposition temperature
unknown

Other Information

VOC Content
21% by weight (EPA Method 24)
21% by weight (consumer products)
VOC Composite Partial Pressure, PPC
4.7 mm of Hg at 68°F

Section 10 – Stability and Reactivity

Chemical Stability under Normal Conditions of Use

Chemical Stability
Stable under normal conditions of use. May contain the following stabilizer(s): 2-methyl-2-butene (“amylene”) and/or butylene oxide
Conditions Affording Instability
none known

Reactivity

not expected

Possibility of Hazardous Reactions

none known

Conditions to Avoid

Avoid direct sunlight and excessive temperatures. Do not puncture, incinerate, or crush. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. If practical, avoid temperatures exceeding flash point.

Incompatible Materials

strong acids; oxidizers; reducing agents; amines; vinyl compounds; and powered zinc, aluminum, magnesium, potassium, and sodium

Hazardous Decomposition Products

hydrochloric acid/hydrogen chloride gas and phosgene

Section 11 – Toxicological Information

Likely Routes of Exposure

ingestion, skin contact, eye contact, inhalation

Symptoms Related to Physical, Chemical, and Toxicological Characteristics

Ingestion

Large Quantity

gastrointestinal disturbances, including upset stomach, cramping, nausea, vomiting, and diarrhea

Small Quantity/Incidental Contact

gastrointestinal disturbances, including upset stomach, cramping, nausea, and vomiting

Skin Contact

moderate irritation

Eye Contact

blurred vision, moderate eye irritation

Inhalation

respiratory tract irritation; headache, lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Immediate, Delayed, and Chronic Effects

SHORT-TERM EXPOSURE

Potential Immediate Effects

Ingestion

gastrointestinal disturbances, nausea and vomiting

Skin Contact

drying of the skin

Eye Contact

blurred vision, temporary corneal damage

Inhalation

shortness of breath or difficulty breathing, headache, dizziness, nausea and vomiting, drowsiness, fatigue, loss of consciousness, death

Potential Delayed Effects

Ingestion

aspiration pneumonitis, cyanosis, coma, death

Skin Contact

defatting of the skin, drying and cracking of the skin, aggravation of pre-existing skin conditions

Eye Contact

temporary corneal damage

Inhalation

nausea and vomiting, fatigue

LONG-TERM EXPOSURE

Potential Immediate Effects

none known

Potential Delayed Effects

brain/central nervous system (CNS) effects, liver damage

Potential Chronic Health Effects

Carcinogenicity

International Agency for Research on Cancer (IARC) Monographs

Group 2A – Probable Human Carcinogen (Perchloroethylene)

Group 2B – Possible Human Carcinogen (Methylene Chloride)

National Toxicology Program (NTP) Report on Carcinogens

Reasonably Anticipated to Be a Human Carcinogen (Methylene Chloride, Perchloroethylene)

Mutagenicity / Genetic Toxicity

not suspected of being a human mutagen / genetic toxicant

Teratogenicity

not suspected of being a human teratogen

Developmental Effects

possible developmental toxicant (Toluene)

Fertility Effects

not suspected of being a reproductive/fertility toxicant

Effects on Lactation

not suspected of affecting lactation

SPECIFIC TARGET ORGAN TOXICITY (STOT)

Single Exposure
central nervous system (narcotic effects); respiratory tract (irritation)
Repeated Exposure
blood/blood system, brain/central nervous system, and liver effects

Numerical Measures of Acute Toxicity

Oral (Rat)
LD_{50}: 1310 mg/kg (derived)
Dermal (Rabbit)
LD_{50}: 2670 mg/kg (derived)
Inhalation (Rat)
LC_{50}: 42 mg/L (derived)

Additional Toxicological Information

Skin Irritation/Corrosion (Rabbit)
skin irritant
Serious Eye Damage/Irritation (Rabbit)
eye irritant
Respiratory Sensitization
unknown frequency of respiratory sensitization
Skin Sensitization
unknown frequency of skin sensitization
Aspiration Hazard
known aspiration hazard

Section 12 – Ecological Information

General Ecological Assessment/Overview

Harmful to animal life. Harmful to aquatic life with long-lasting effects. Very mobile in soils which may lead to contamination of groundwater.

Aquatic Toxicity

Vertebrates (Fish)
Acute Toxicity
LC_{50}: 29 mg/L (derived)
Chronic Toxicity
NOEC: 6.1 mg/L (derived)
Invertebrates (Water Flea)
Acute Toxicity
LC_{50}: 12 mg/L (derived)
Chronic Toxicity
NOEC: 0.7 mg/L (derived)
Aquatic Plants (Freshwater Algae)
Acute Toxicity
EC_{50}: 7.7 mg/L (derived)
Chronic Toxicity
NOEC: 550 mg/L (derived)

Terrestrial Toxicity

Invertebrate (Earthworm)
LC_{50}: not available

Persistence and Degradability

Persistence
very persistent (Perchloroethylene)
Degradability
non-rapidly degradable

Bioaccumulative Potential

Bioaccumulation Potential Assessment
does not bioaccumulate
Bioaccumulation Factor
90 (Toluene)

Mobility in Soils

Mobility in Soils Assessment
very mobile in soils—may contaminate groundwater
Soil Organic Carbon/Water Partition Coefficient (log K_{OC})
1.8 (composite)

Results of PBT and vPvB Assessment

not a persistent, bioaccumulative, toxic chemical (PBT); not very persistent and very bioaccumulative (vPvB)

Other Adverse Effects

none known

Section 13 – Disposal Considerations

General Assessment/Overview

Dispose of waste in accordance with all applicable regulations. Harmful to animal life—do not pour on ground. Marine Pollutant. Toxic to aquatic life with long-lasting effects—do not pour into waterways. Contains aggressive solvents, which may dissolve PVC pipes and fittings—do not pour down drain.

RCRA Hazardous Waste Code(s) (40 CFR 261.20-33)

Based on this material as-supplied, used or unwanted product may be subject to RCRA regulations and classified as F001 – spent halogenated solvent used in degreasing

Section 14 – Transportation Information

Transportation by Ground – US Department of Transportation

Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by ground, this product may be eligible for a "Limited Quantity" exception per §49 CFR 173.306.

Transportation by Air – ICAO/IATA

Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by air, this product may be eligible for a "Limited Quantity" exception.

Transportation by Water – IMO/IMDG

Shipping Description
UN1950, Aerosols, 2.2 (6.1), Marine Pollutant (Tetrachloroethylene)
Exemption Eligibility
When shipped by water, this product may be eligible for a "Limited Quantity" exception.

Section 15 – Regulatory Information

Safety, Health, and Environmental Regulations/Legislation

UNITED STATES – SELECT FEDERAL REGULATIONS

Environmental Protection Agency (EPA)
Toxic Substances Control Act (TSCA) (15 USC 2601, et seq.)
All chemicals known to be present in this product are either listed on the TSCA inventory or are not required to be.
SARA Title III (42 USC 9601, et seq.)
Section 302 – Extremely Hazardous Substances (40 CFR 355)
none
Section 304 – Emergency Release Notification (40 CFR 302.4)
Methylene Chloride, Toluene, Perchloroethylene
Section 311/312 – Hazard Categorization (40 CFR 370.40)
acute toxicity, chronic toxicity, fire hazard, sudden release of pressure
Section 313 – Toxic Chemicals (40 CFR 372.65)
Methylene Chloride, Toluene, Perchloroethylene
Clean Air Act (42 USC ch. 85 § 7401 et seq.)
Section 112 – Hazardous Air Pollutants
Methylene Chloride, Toluene, Perchloroethylene
Section 183(e) – Commercial and Consumer Products – VOC Limit and Category (40 CFR 59 subpart C)
not regulated as a "Brake Cleaner"

Occupational Safety & Health Administration (OSHA)

Hazard Communication Standard

This safety data sheet (SDS) is provided for compliance with applicable regulations of the Hazard Communication Standard of 2012 (HCS/HAZCOM 2012) found in §29 CFR 1910.1200. Federal law requires persons receiving this document to study it carefully, become aware of the hazards of this product, and notify all employees, visitors, agents, and contractors of the information contained herein.

Specifically Regulated Substances

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052.

Consumer Product Safety Commission

Federal Hazardous Substances Act

This product is regulated under the Federal Hazardous Substances Act, is subject to the labeling requirements of 16 CFR 1500, and must include at minimum the following cautionary statements: DANGER: Harmful or fatal if swallowed. Vapor harmful. Eye and skin irritant. Contents under pressure. Keep out of the reach of children.

UNITED STATES – SELECT REGIONAL CONSIDERATIONS

Ozone Transport Commission (OTC) – Model Rule VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Lake Michigan Air Directors Consortium (LADCO) – Model Rule VOC Limit and Category

45% as "Brake Cleaner" (complies)

UNITED STATES – SELECT STATE REGULATIONS

California

Air Resources Board (ARB/CARB)

Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Massachusetts

"Right-to-Know" Legislation – Substance List (105 CMR 670.000)

Dichloromethane, Toluene, Perchloroethylene, Carbon Dioxide

New Jersey

"Right-to-Know" Legislation – Hazardous Substance List (34:5A-1 et seq.)

Methylene Chloride, Toluene, Perchloroethylene, Carbon Dioxide

Pennsylvania

"Right-to-Know" Legislation – Hazardous Substance List (Chapter 323)

Dichloromethane, Methylbenzene, Tetrachloroethene, Carbon Dioxide

INTERNATIONAL – SELECT REGULATIONS

Canada

Environment Canada – Domestic Substances List (DSL)

All chemicals known to be present in this product are listed on the DSL.

China

Ministry of Environmental Protection – Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)

All chemicals known to be present in this product are listed on the IECSC.

European Union

European Chemical Agency – European Inventory of Existing Chemical Substances (EINECS)

All chemicals known to be present in this product are listed on the EINECS.

Chemical Safety Assessment

has not been conducted on product, as-supplied

Section 16 – Other Information

Hazardous Materials Information System (HMIS)

Health	* 2
Flammability	0
Reactivity	0
Protective Equipment	X

Hazard Index

Least - 0
Slight - 1
Moderate - 2
High - 3
Extreme - 4

Index of Abbreviations

ACGIH – American Council of Governmental and Industrial Hygienists
CAS RN – Chemical Abstracts Service Registry Number
EC_{50} – Median Effective Concentration
IATA – International Air Transport Association
ICAO – International Civil Aviation Organization
IMDG – International Maritime Dangerous Goods
IMO – International Maritime Organization
LC_{50} – Median Lethal Concentration
LD_{50} – Median Lethal Dose
N/A – Not Applicable
NE – Not Established
NOEC – No Observable Exposure Concentration
PEL – Permissible Exposure Limit (as required by OSHA)
TLV – Threshold Limit Value (as recommended by ACGIH)
VOC – Volatile Organic Compound

Relevant Dates and Applicability

Date of Issuance
May 28, 2015
Date of Previous Revision
not applicable—initial Safety Data Sheet
Primary Revision Change(s)
not applicable
Document Applicability
This safety data sheet only applies to part number 1420 manufactured on or after January 1, 2015.

Document Author

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Legal Disclaimer

The information contained in this document is, to the best of Berryman Products, Inc.'s knowledge, complete and accurate but is not warranted. All materials may present unknown hazards and should be used with caution. It is the responsibility of the user to evaluate the information in a prudent manner and to use it in a manner consistent with its intended purpose. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.