



# Safety Data Sheet

## Section 1 – Identification of the Mixture and of the Company

### Product Identification

#### Primary Identifier(s) Used on the Label

Berryman *STEP 1 PROFESSIONAL MASS AIR FLOW SENSOR CLEANER*

#### Product Synonym(s)

blend "MAF"

#### Product Number(s)

2641

### Relevant Identified Uses and Uses Advised Against

#### Recommended Uses

automotive sensor cleaning

#### Uses Advised Against

not for use in some applications

### 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](http://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

Flammable Aerosol – Category 1

Gases Under Pressure – Compressed Gas

#### Health Hazards

Skin Irritant – Category 2

Eye Irritant – Category 2A

Specific Target Organ Toxicity - Single Exposure – Category 3 (narcotic effects)

Aspiration Hazard – Category 1

Environmental Hazard - Acute – Category 3

### Allocation of Label Elements

#### Chemical Identity

Berryman *STEP 1 PROFESSIONAL MASS AIR FLOW SENSOR CLEANER*

#### Pictograms



#### Signal Word

DANGER

**Hazard Statements**

H222 – Extremely flammable aerosol.  
 H280 – Contains gas under pressure; may explode if heated.  
 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).  
 H336 – May cause drowsiness or dizziness.  
 H411 – Toxic to aquatic life with long-lasting effects.

**Prevention Precautionary Statements**

P101 – Keep out of reach of children.  
 P102 – Read label before use.  
 P210 – Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
 P211 – Do not spray on an open flame or other ignition source.  
 P251 – Pressurized container—do not pierce or burn, even after use.  
 P261 – Avoid breathing gas, mist, vapor, or spray.  
 P264 – Wash thoroughly with soap and water after handling.  
 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**

P321 – Specific treatment available in this document in “Section 4 – First Aid Measures.”  
 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 soap and water or shower.  
 P304/P340/P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.  
 P305/P351/P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
 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**

<u>Component</u>	<u>CAS RN</u>	<u>Weight</u>
Heptanes (mixture)	426260-76-6	80-90%
2-Propanol	67-63-0	10-15%
Carbon Dioxide	124-38-9	3-6%

**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. 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

headache and lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination

### 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

If shortness of breath, difficulty breathing, spontaneous vomiting occurs, or loss of consciousness, seek immediate medical attention.

### Specific Treatment and Notes to Physician

No additional information available

## Section 5 – Firefighting Measures

### Fire Extinguishing Media

#### Support for Combustion

Product supports combustion.

#### Suitable Extinguishing Media

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

#### Unsuitable Extinguishing Media

water jet/spray (may cause product to float to surface and reignite)

### Special Hazards/Considerations

#### Combustion Products

Combustion in the presence of air may yield hydrocarbons, carbon monoxide, carbon dioxide, and organic oxygenates.

### 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, flammable solvents and may vent, rupture, or explode violently at elevated temperatures.

#### Precautions and Procedures

Contains gas under pressure; may explode 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

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Avoid breathing gas, mist, vapor, or spray. Wash thoroughly with soap and water after handling. 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

Utilize large socks/absorbent booms or other inert barrier to form dam/dike in order to contain spill 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 explosion-proof 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

Avoid breathing 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 with soap and water after handling.

**Precautions for Safe Handling (cont'd)****Environmental Precautions**

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid release to the environment.

**Conditions and Considerations for Safe Storage**

Contains gas under pressure; may explode if heated. Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 3 recommendations.

**Section 8 – Exposure Controls/Personal Protection**

<u>Component</u>	<u>CAS RN</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
n-Heptane	426260-76-6	500 ppm	400 ppm
2-Propanol	67-63-0	500 ppm	400 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm

**Exposure Controls****Appropriate Engineering Controls**

If practical, use outside with adequate ventilation to minimize exposure.

**PPE Overview****Hand Protection**

Use of chemical-resistant gloves (EVAL, neoprene, nitrile/Buna-N, PVA, PVC, 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**

22 ppm

**pH**

not relevant

**Freezing Point**

< -127°F

**Boiling Range**

179 - 210°F

**Flash Point and Method**

< 20°F by closed-cup tester

**Explosion Limits in Air**

1.2 - 7.0% by volume (composite)

**Evaporation Rate**

2.0 (n-Butyl Acetate=1.0)

**Vapor Pressure, as supplied**

80 - 120 PSI (typical)

**Vapor Density**

>1.0

**Specific Gravity**

0.70 at 68°F

**Density**

5.8 lb/gal at 68°F

**Water Solubility**

insoluble

**n-Octanol/Water Partition Coefficient (log P<sub>ow</sub>)**

3.8 (composite)

## Information on Basic Physical and Chemical Properties (cont'd.)

### Viscosity

0.5 cSt at 68°F

### Volatility

100% by weight

## Other Information

### VOC Content

95% by weight (consumer products)

### VOC Composite Partial Pressure, PPC

39 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.

#### 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;

### Hazardous Decomposition Products

none known

## 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 and cramping

#### Skin Contact

moderate irritation

#### Eye Contact

moderate eye irritation

#### Inhalation

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**

drying, burning, or irritation of the mouth and throat, 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**

none known

#### **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, loss of consciousness

### ***LONG-TERM EXPOSURE***

#### **Potential Immediate Effects**

none known

#### **Potential Delayed Effects**

none known

#### **Potential Chronic Health Effects**

##### **Carcinogenicity**

International Agency for Research on Cancer (IARC) Monographs

all components “Group 3 – Not Classifiable as to Human Carcinogenicity” or not listed

National Toxicology Program (NTP) Report on Carcinogens

not listed

Occupational Safety & Health Administration (OSHA)

not listed

##### **Mutagenicity / Genetic Toxicity**

not suspected of being a human mutagen / genetic toxicant

##### **Teratogenicity**

not suspected of being a human teratogen

##### **Developmental Effects**

not suspected of being a developmental toxicant

##### **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)

#### **Repeated Exposure**

none known

### **Numerical Measures of Acute Toxicity**

#### **Oral (Rat)**

LD<sub>50</sub>: >5,000 mg/kg (derived)

#### **Dermal (Rabbit)**

LD<sub>50</sub>: 2,230 mg/kg (derived)

#### **Inhalation (Rat)**

LC<sub>50</sub>: 20 mg/L (derived)

### **Additional Toxicological Information**

#### **Skin Irritation/Corrosion (Rabbit)**

skin irritant

#### **Serious Eye Damage/Irritation (Rabbit)**

eye irritant

#### **Respiratory Sensitization**

does not cause respiratory sensitization

#### **Skin Sensitization**

does not cause skin sensitization

#### **Aspiration Hazard**

known aspiration hazard

## **Section 12 – Ecological Information**

### **General Ecological Assessment/Overview**

Toxic to aquatic life with long-lasting effects.

## **Aquatic Toxicity**

### **Vertebrates (Fish)**

#### **Acute Toxicity**

LC<sub>50</sub>: 4.5 mg/L (derived)

#### **Chronic Toxicity**

NOEC: not available

### **Invertebrates (Water Flea)**

#### **Acute Toxicity**

LC<sub>50</sub>: 1.7 mg/L (derived)

#### **Chronic Toxicity**

NOEC: not available

### **Aquatic Plants (Freshwater Algae)**

#### **Acute Toxicity**

EC<sub>50</sub>: 4.3 mg/L (derived)

#### **Chronic Toxicity**

NOEC: not available

## **Terrestrial Toxicity**

### **Invertebrate (Earthworm)**

LC<sub>50</sub>: not available

## **Persistence and Degradability**

### **Persistence**

not expected to be persistent

### **Degradability**

rapidly degradable

## **Bioaccumulative Potential**

### **Bioaccumulation Potential Assessment**

may bioaccumulate (n-Heptane)

### **Bioaccumulation Factor**

2,000 (n-Heptane)

## **Mobility in Soils**

### **Mobility in Soils Assessment**

not mobile in soils

### **Soil Organic Carbon/Water Partition Coefficient (log K<sub>oc</sub>)**

3.8 (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. Toxic to aquatic life with long-lasting effects—do not pour into waterways.

## **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 D001 – ignitable waste

# **Section 14 – Transportation Information**

## **Transportation by Ground – US Department of Transportation**

### **Shipping Description**

UN1950, Aerosols, 2.1

### **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, Flammable, 2.1

### **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, 2.1

**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)**

none

**Section 311/312 – Hazard Categorization (40 CFR 370.40)**

acute toxicity, fire hazard, sudden release of pressure

**Section 313 – Toxic Chemicals (40 CFR 372.65)**

none

**Clean Air Act (42 USC 7401, et seq.)****Section 112 – Hazardous Air Pollutants**

none

**Section 183(e) – Commercial and Consumer Products – VOC Limit and Category (40 CFR 59 subpart C)**

not regulated

**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.

**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: Extremely Flammable. 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**

not regulated

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

not regulated

***UNITED STATES – SELECT STATE REGULATIONS*****California****Office of Environmental Health Hazard Assessment (OEHHHA)****Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986**

This product is not subject to the labeling requirements of Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986.

**Air Resources Board (ARB/CARB)****Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category**

not regulated

**Massachusetts****“Right-to-Know” Legislation – Substance List (105 CMR 670.000)**

Heptane, 2-Propanol, Carbon Dioxide

**New Jersey****“Right-to-Know” Legislation – Hazardous Substance List (34:5A-1, et seq.)**

Heptane, 2-Propanol, Carbon Dioxide

**Pennsylvania****“Right-to-Know” Legislation – Hazardous Substance List (Chapter 323)**

Heptane, 2-Propanol, 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)**

<b>Health</b>	<b>2</b>	<b>Hazard Index</b>
<b>Flammability</b>	<b>3</b>	Least - 0
<b>Reactivity</b>	<b>0</b>	Slight - 1
<b>Protective Equipment</b>	<b>B</b>	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<sub>50</sub> – Median Effective Concentration

IATA – International Air Transport Association

ICAO – International Civil Aviation Organization

IMDG – International Maritime Dangerous Goods

IMO – International Maritime Organization

LC<sub>50</sub> – Median Lethal Concentration

LD<sub>50</sub> – Median Lethal Dose

N/A – Not Applicable

NE – Not Established

NFPA – National Fire Protection Association

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**

January 24, 2019

**Date of Previous Revision**

January 11, 2018

**Primary Revision Change(s)**

General update

**Document Applicability**

This safety data sheet applies only to part numbers 2641.

**Document Author**

Dan Nowlan

**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.



# Safety Data Sheet

## Section 1 – Identification of the Mixture and of the Company

### Product Identification

#### Primary Identifier(s) Used on the Label

Berryman *STEP 2 PROFESSIONAL AIR-INTAKE & THROTTLE BODY CLEANER*

#### Product Synonym(s)

blend "1AD-2"

#### Product Number(s)

2642

### Relevant Identified Uses and Uses Advised Against

#### Recommended Uses

automotive air-intake and throttle body cleaner

#### Uses Advised Against

do not spray through air cleaner or onto mass air flow sensor

### 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

Flammable Aerosol – Category 1

Gases Under Pressure – Compressed Gas

#### Health Hazards

Skin Irritant – Category 2

Eye Irritant – Category 2A

Specific Target Organ Toxicity - Single Exposure – Category 3 (narcotic effects)

Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system)

### Allocation of Label Elements

#### Chemical Identity

Berryman *STEP 2 PROFESSIONAL AIR-INTAKE & THROTTLE BODY CLEANER*

#### Pictograms



### Allocation of Label Elements (cont'd)

#### Signal Word

DANGER

**Hazard Statements**

H222 – Extremely flammable aerosol.

H280 – Contains gas under pressure; may explode if heated.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H336 – May cause drowsiness or dizziness.

H373 – May cause damage to blood/blood system and central nervous system through prolonged or repeated exposure.

**Prevention Precautionary Statements**

P101 – Keep out of reach of children.

P102 – Read label before use.

P210 – Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

P211 – Do not spray on an open flame or other ignition source.

P251 – Do not pierce or burn, even after use.

P260 – Do not breathe fumes, gas, mist, vapor, or spray.

P264 – Wash thoroughly with soap and water after handling.

P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear protective gloves, protective clothing, and eye or face protection.

**Response Precautionary Statements**

P314 – Get medical advice/attention if you feel unwell.

P321 – Specific treatment available in this document in “Section 4 – First Aid Measures.”

P302/P352 – IF ON SKIN: Wash with plenty of soap and water or shower.

P304/P340/312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.

P305/P351/P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

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**

<b><u>Component</u></b>	<b><u>CAS RN</u></b>	<b><u>Weight</u></b>
Acetone	67-64-1	40-50%
Methyl Acetate	79-20-9	30-40%
Methyl Ethyl Ketone	78-93-3	4-8%
2-Butoxyethanol	111-76-2	4-8%
Carbon Dioxide	124-38-9	4-8%
Petroleum Oil	64742-65-0	1-2%

**Section 4 – First Aid Measures****Description of First Aid Measures****Ingestion**

Drink 1-2 glasses of milk or water. Call poison control center, hospital emergency room, or doctor if you feel unwell.

**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

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 or difficulty breathing, seek immediate medical attention.

### Specific Treatment and Notes to Physician

no additional information available

## Section 5 – Firefighting Measures

### Fire Extinguishing Media

#### Support for Combustion

Product supports combustion.

#### Suitable Extinguishing Media

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

#### Unsuitable Extinguishing Media

water jet/spray (may cause product to float to surface and reignite)

### Special Hazards/Considerations

#### Combustion Products

Combustion in the presence of air may yield unburned hydrocarbons, carbon monoxide, carbon dioxide, and organic oxygenates.

### 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, flammable solvents and may vent, rupture, or explode violently at elevated temperatures.

#### Precautions and Procedures

Contains gas under pressure; may explode 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

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not breathe mist, vapor, or spray. Wash thoroughly with soap and water after handling. 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 a 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 explosion-proof 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 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 with soap and water after handling.

#### Environmental Precautions

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid release to the environment.

### Conditions and Considerations for Safe Storage

Contains gas under pressure; may explode if heated. Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 2 recommendations.

## Section 8 – Exposure Controls/Personal Protection

<u>Component</u>	<u>CAS RN</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Acetone	67-64-1	1000 ppm	500 ppm
Methyl Acetate	79-20-9	200 ppm	200 ppm
Methyl Ethyl Ketone	78-93-3	200 ppm	200 ppm
2-Butoxyethanol	111-76-2	50 ppm	20 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm
Petroleum Oil (as oil mist)	64742-65-0	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>

### Exposure Controls

#### Appropriate Engineering Controls

If practical, use outside with adequate ventilation to minimize exposure.

#### PPE Overview

##### Hand Protection

Use of chemical-resistant gloves (butyl rubber, EVAL, neoprene, nitrile/Buna-N, PVA, PVC, 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

0.5 ppm

#### pH

not relevant

#### Freezing Point

<-107°F

#### Boiling Range

133 - 1100°F

#### Flash Point and Method

<20°F by closed-cup tester

#### Explosion Limits in Air

2.2 - 13.2% by volume (composite)

#### Evaporation Rate

5.1 (n-Butyl Acetate=1.0)

#### Vapor Pressure, as supplied

80-120 PSI (typical)

**Information on Basic Physical and Chemical Properties (cont'd)****Vapor Density**

&gt;1.0

**Specific Gravity**

0.844 at 68°F

**Density**

7.03 lb/gal at 68°F

**Water Solubility**

practically insoluble

**n-Octanol/Water Partition Coefficient (log P<sub>ow</sub>)**

0.1 (composite)

**Viscosity**

0.4 cSt at 68°F

**Volatility**

95-99% by weight

**Auto-ignition temperature**

&gt;800°F (composite)

**Other Information****VOC Content**

10% by weight (EPA Method 24)

10% by weight (consumer products)

**VOC Composite Partial Pressure, PP<sub>c</sub>**

3.7 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.

**Conditions Affording Instability**

none known

**Reactivity**

not expected

**Possibility of Hazardous Reactions**

none expected

**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

**Hazardous Decomposition Products**

none known

**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**

virtually nontoxic after single ingestion of small quantity

**Skin Contact**

moderate irritation

**Eye Contact**

severe eye irritation

**Inhalation**

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

## Immediate, Delayed, and Chronic Effects

### *SHORT-TERM EXPOSURE*

#### Potential Immediate Effects

##### **Ingestion**

drying, burning, or irritation of the mouth and throat, gastrointestinal disturbances, nausea and vomiting

##### **Skin Contact**

drying of the skin

##### **Eye Contact**

temporary corneal damage

##### **Inhalation**

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

#### Potential Delayed Effects

##### **Ingestion**

none known

##### **Skin Contact**

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

##### **Eye Contact**

temporary corneal damage

##### **Inhalation**

fatigue

### *LONG-TERM EXPOSURE*

#### Potential Immediate Effects

none known

#### Potential Delayed Effects

none known

#### Potential Chronic Health Effects

##### **Carcinogenicity**

###### **International Agency for Research on Cancer (IARC) Monographs**

all components "Group 3 – Not Classifiable as to Human Carcinogenicity" or not listed

###### **National Toxicology Program (NTP) Report on Carcinogens**

not listed

###### **Occupational Safety & Health Administration (OSHA)**

not listed

##### **Mutagenicity / Genetic Toxicity**

not suspected of being a human mutagen / genetic toxicant

##### **Teratogenicity**

not suspected of being a human teratogen

##### **Developmental Effects**

not suspected of being a developmental toxicant

##### **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)

#### Repeated Exposure

blood/blood system effects

## Numerical Measures of Acute Toxicity

#### Oral (Rat)

LD<sub>50</sub>: 4,000 mg/kg (derived)

#### Dermal (Rabbit)

LD<sub>50</sub>: 4,890 mg/kg (derived)

#### Inhalation (Rat)

LC<sub>50</sub>: 32 mg/L (derived)

## Additional Toxicological Information

#### Skin Irritation/Corrosion (Rabbit)

skin irritant

#### Serious Eye Damage/Irritation (Rabbit)

eye irritant

## Additional Toxicological Information (cont'd)

### Respiratory Sensitization

does not cause respiratory sensitization

### Skin Sensitization

does not cause skin sensitization

### Aspiration Hazard

not an aspiration hazard

## Section 12 – Ecological Information

### General Ecological Assessment/Overview

Very mobile in soils which may lead to contamination of groundwater.

### Aquatic Toxicity

#### Vertebrates (Fish)

##### Acute Toxicity

LC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: not available

#### Invertebrates (Water Flea)

##### Acute Toxicity

LC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: not available

#### Aquatic Plants (Freshwater Algae)

##### Acute Toxicity

EC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: >100 mg/L (derived)

### Terrestrial Toxicity

#### Invertebrate (Earthworm)

LC<sub>50</sub>: not available

### Persistence and Degradability

#### Persistence

not expected to be persistent

#### Degradability

rapidly degradable

### Bioaccumulative Potential

#### Bioaccumulation Potential Assessment

does not bioaccumulate

#### Bioaccumulation Factor

500 (petroleum oil)

### Mobility in Soils

#### Mobility in Soils Assessment

very mobile in soils—may contaminate groundwater

#### Soil Organic Carbon/Water Partition Coefficient (log K<sub>oc</sub>)

3.3 (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. 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 F003 – spent non-halogenated solvent mixture containing acetone, methanol, and/or xylene

**Section 14 – Transportation Information****Transportation by Ground – US Department of Transportation****Shipping Description**

UN1950, Aerosols, 2.1

**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, Flammable, 2.1

**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, 2.1

**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)**

Acetone, Methyl Ethyl Ketone

**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)**

2-Butoxyethanol (“certain glycol ethers”), Methyl Ethyl Ketone

**Clean Air Act (42 USC 7401, et seq.)****Section 112 – Hazardous Air Pollutants**

Methyl Ethyl Ketone

**Section 183(e) – Commercial and Consumer Products – VOC Limit and Category (40 CFR 59 subpart C)**

not regulated

**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.

**Consumer Product Safety Commission (CPSC)****Federal Hazardous Substances Act (FHSA)**

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: Extremely Flammable. 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 “Carburetor or Fuel-injection Air Intake Cleaner” (complies)

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

45% as “Carburetor or Fuel-injection Air Intake Cleaner” (complies)

**UNITED STATES – SELECT STATE REGULATIONS****California****Office of Environmental Health Hazard Assessment (OEHHA)****Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986**

This product is not subject to the labeling requirements of Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986.

**Air Resources Board (ARB/CARB)****Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category**

10% as “Carburetor or Fuel-injection Air Intake Cleaner” (complies)

**Massachusetts****“Right-to-Know” Legislation – Substance List (105 CMR 670.000)**

Acetone, Methyl Acetate, Methyl Ethyl Ketone (MEK), 2-Butoxyethanol, Carbon Dioxide

**New Jersey****“Right-to-Know” Legislation – Hazardous Substance List (34:5A-1, et seq.)**

Acetone, Methyl Acetate, Methyl Ethyl Ketone, 2-Butoxyethanol, Carbon Dioxide

**Pennsylvania****“Right-to-Know” Legislation – Hazardous Substance List (Chapter 323)**

2-Propanone; Acetic Acid, Methyl Ester; 2-Butanone; 2-Butoxyethanol; 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	<b>Hazard Index</b>
Flammability	3	Least - 0
Reactivity	0	Slight - 1
Protective Equipment	B	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<sub>50</sub> – Median Effective Concentration

IATA – International Air Transport Association

ICAO – International Civil Aviation Organization

IMDG – International Maritime Dangerous Goods

IMO – International Maritime Organization

LC<sub>50</sub> – Median Lethal Concentration

LD<sub>50</sub> – Median Lethal Dose

N/A – Not Applicable

NE – Not Established

NFPA – National Fire Protection Association

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

January 23, 2019

### Date of Previous Revision

N/A—initial SDS

### Primary Revision Change(s)

N/A

### Document Applicability

This safety data sheet applies to part number 2642 manufactured on or after November 1, 2018.

## Document Author

Dan Nowlan

## 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.



# Safety Data Sheet

## Section 1 – Identification of the Mixture and of the Company

### Product Identification

#### Primary Identifier(s) Used on the Label

Berryman *STEP 3 PROFESSIONAL INTAKE VALVE & COMBUSTION CHAMBER CLEANER*

#### Product Synonym(s)

blend "IV3C"

#### Product Number(s)

2643

### Relevant Identified Uses and Uses Advised Against

#### Recommended Uses

automotive intake valve and combustion chamber cleaner

#### Uses Advised Against

not for use in diesel engines

### 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

Flammable Aerosol – Category 1

Gases Under Pressure – Compressed Gas

#### Health Hazards

Acute Oral – Category 4

Acute Dermal – Category 4

Acute Inhalation – Category 3

Skin Irritant – Category 2

Eye Irritant – Category 2A

Developmental – Category 2

Specific Target Organ Toxicity - Single Exposure – Category 1 (central nervous system, eyes)

Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system)

### Allocation of Label Elements

#### Chemical Identity

Berryman *STEP 3 PROFESSIONAL INTAKE VALVE & COMBUSTION CHAMBER CLEANER*

#### Pictograms



**Signal Word**

DANGER

**Hazard Statements**

H222 – Extremely flammable aerosol.

H280 – Contains gas under pressure; may explode if heated.

H302 – Harmful if swallowed.

H312 – Harmful in contact with skin.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H331 – Toxic if inhaled.

H361d – Suspected of damaging the unborn child.

H370 – Causes damage to organs.

H373 – May cause damage to blood/blood system and central nervous system through prolonged or repeated exposure.

**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.

P210 – Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

P211 – Do not spray on an open flame or other ignition source.

P251 – Do not pierce or burn, even after use.

P260 – Do not breathe fumes, gas, mist, vapor, or spray.

P264 – Wash thoroughly with soap and water 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, and eye or face protection.

**Response Precautionary Statements**

P311 – Call POISON CONTROL CENTER, hospital emergency room, or doctor.

P321 – Specific treatment available in this document in “Section 4 – First Aid Measures.”

P330 – Rinse mouth.

P301/P312 – IF SWALLOWED: Immediately call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.

P303/P361/P353/P312 – IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with soap and water or shower. Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.

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/P311 – If exposed or concerned, call POISON CONTROL CENTER, hospital emergency room, or doctor.

P332/P313 – If skin irritation occurs, get medical advice/attention.

P337/P313 – If eye irritation persists, get medical advice/attention.

P361/364 – Immediately take off all 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**

<u>Component</u>	<u>CAS RN</u>	<u>Weight</u>
1-Methyl-2-Pyrrolidone	872-50-4	25-40%
2-Butoxyethanol	111-76-2	20-30%
Methanol	67-56-1	20-30%
Polyetheramine	Mixture	6-10%
Carbon Dioxide	124-38-9	<5%
Alkylphenol Ethoxylate	127087-87-0	<5%

## Section 4 – First Aid Measures

### Description of First Aid Measures

#### Ingestion

Rinse mouth. Drink 1-2 glasses of milk or water. Call poison control center, hospital emergency room, or doctor if you feel unwell.

#### 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

Immediately take off all contaminated clothing. Rinse skin with soap and water or shower. Call POISON CONTROL CENTER, hospital emergency room, or doctor.

#### 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

headache and lightheadedness

#### 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, or spontaneous vomiting, severe headache, or loss of consciousness, seek immediate medical attention.

#### Specific Treatment and Notes to Physician

If spontaneous vomiting occurs, keep head below hips to avoid aspiration.

## Section 5 – Firefighting Measures

### Fire Extinguishing Media

#### Support for Combustion

Product supports combustion.

#### Suitable Extinguishing Media

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

#### Unsuitable Extinguishing Media

water jet/spray (may cause product to float to surface and reignite)

### Special Hazards/Considerations

#### Combustion Products

Combustion in the presence of air may yield hydrocarbons, organic oxygenates, ammonia, amines, and oxides of carbon and nitrogen.

### 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, flammable solvents and may vent, rupture, or explode violently at elevated temperatures.

#### Precautions and Procedures

Contains gas under pressure; may explode 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. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not breathe mist, vapor, or spray. Wash thoroughly with soap and water 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.

**Materials and Methods for Containment (cont'd.)****Large Spills**

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

**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 explosion-proof 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 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 with soap and water after handling. Do not eat, drink or smoke when using this product.

**Environmental Precautions**

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid release to the environment.

**Conditions and Considerations for Safe Storage**

Contains gas under pressure; may explode if heated. Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 2 recommendations.

**Section 8 – Exposure Controls/Personal Protection**

<u>Component</u>	<u>CAS RN</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
2-Butoxyethanol	111-76-2	50 ppm	20 ppm
Methanol	67-56-1	200 ppm	200 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm

**Exposure Controls****Appropriate Engineering Controls**

If practical, use outside with adequate ventilation to minimize exposure.

**PPE Overview****Hand Protection**

Use of chemical-resistant gloves (EVAL, neoprene, nitrile/Buna-N, PVC, 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 to very light yellow

**Odor**

mild, solvent

**Odor Threshold**

0.5 ppm

**pH**

not relevant

**Information on Basic Physical and Chemical Properties (cont'd.)****Freezing Point**

&lt; -39°F

**Boiling Range**

148-608°F

**Flash Point and Method**

55-70°F by closed-cup tester

**Explosion Limits in Air**

1.9 - 14.3% by volume (composite)

**Evaporation Rate**

0.5 (n-Butyl Acetate=1.0)

**Vapor Pressure, as supplied**

80-120 PSI (typical)

**Vapor Density**

&gt;1.0

**Specific Gravity**

0.941 at 68°F

**Density**

7.84 lb/gal at 68°F

**Water Solubility**

practically insoluble

**n-Octanol/Water Partition Coefficient (log P<sub>ow</sub>)**

0.6 (composite)

**Viscosity**

2 cSt at 68°F

**Volatility**

85-90% by weight

**Auto-ignition temperature**

540°F (composite)

**Section 10 – Stability and Reactivity****Chemical Stability under Normal Conditions of Use****Chemical Stability**

Stable under normal conditions of use.

**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

**Hazardous Decomposition Products**

none known

**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 and cramping



## Symptoms Related to Physical, Chemical, and Toxicological Characteristics (cont'd.)

### Skin Contact

moderate irritation

### Eye Contact

severe eye irritation

### Inhalation

headache, lightheadedness

## Immediate, Delayed, and Chronic Effects

### *SHORT-TERM EXPOSURE*

#### Potential Immediate Effects

##### **Ingestion**

drying, burning, or irritation of the mouth and throat, gastrointestinal disturbances, nausea and vomiting, blindness

##### **Skin Contact**

drying of the skin

##### **Eye Contact**

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**

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, loss of consciousness

### *LONG-TERM EXPOSURE*

#### Potential Immediate Effects

none known

#### Potential Delayed Effects

none known

#### Potential Chronic Health Effects

##### **Carcinogenicity**

International Agency for Research on Cancer (IARC) Monographs

all components "Group 3 – Not Classifiable as to Human Carcinogenicity" or not listed

National Toxicology Program (NTP) Report on Carcinogens

not listed

Occupational Safety & Health Administration (OSHA)

not listed

##### **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 (Methanol and 1-Methyl-2-Pyrrolidone)

##### **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

eyes, respiratory tract effects

#### Repeated Exposure

blood/blood system effects

## Numerical Measures of Acute Toxicity

### Oral (Rat)

LD<sub>50</sub>: 460 mg/kg (acute toxicity estimate)

## Numerical Measures of Acute Toxicity (cont'd.)

### Dermal (Rabbit)

LD<sub>50</sub>: 1010 mg/kg (derived)

### Inhalation (Rat)

LC<sub>50</sub>: 5.0 mg/L (derived)

## Additional Toxicological Information

### Skin Irritation/Corrosion (Rabbit)

skin irritant

### Serious Eye Damage/Irritation (Rabbit)

severe eye irritant

### Respiratory Sensitization

does not cause respiratory sensitization

### Skin Sensitization

does not cause skin sensitization

### Aspiration Hazard

not an aspiration hazard

## Section 12 – Ecological Information

### General Ecological Assessment/Overview

Harmful to animal life. Toxic to aquatic life. Very mobile in soils which may lead to contamination of groundwater.

### Aquatic Toxicity

#### Vertebrates (Fish)

##### Acute Toxicity

LC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: not available

#### Invertebrates (Water Flea)

##### Acute Toxicity

LC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: not available

#### Aquatic Plants (Freshwater Algae)

##### Acute Toxicity

EC<sub>50</sub>: >100 mg/L (derived)

##### Chronic Toxicity

NOEC: >100 mg/L (derived)

### Terrestrial Toxicity

#### Invertebrate (Earthworm)

LC<sub>50</sub>: not available

### Persistence and Degradability

#### Persistence

not expected to be persistent

#### Degradability

rapidly degradable

### Bioaccumulative Potential

#### Bioaccumulation Potential Assessment

does not bioaccumulate

#### Bioaccumulation Factor

<20

### Mobility in Soils

#### Mobility in Soils Assessment

very mobile in soils—may contaminate groundwater

#### Soil Organic Carbon/Water Partition Coefficient (log K<sub>oc</sub>)

3.9 (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. 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 F003 – spent non-halogenated solvent mixture containing acetone, methanol, and/or xylene

## Section 14 – Transportation Information

### Transportation by Ground

#### US Department of Transportation

##### Shipping Description

UN1950, Aerosols, 2.1

##### Exemption Eligibility

When shipped by ground, this product may be eligible for a “Limited Quantity” exception per §49 CFR 173.306.

#### Outside the United States

##### Shipping Description

UN1950, Aerosols, 2.1

##### 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, Flammable, containing substances in Division 6.1, Packing Group III, 2.1 (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, 2.1

#### 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)

Methanol

##### 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)

Methanol, 1-Methyl-2-Pyrrolidone, and 2-Butoxyethanol (“certain glycol ethers”)

##### Clean Air Act (42 USC 7401, et seq.)

##### Section 112 – Hazardous Air Pollutants

Methanol

##### 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.

**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 ☠ POISON: Flammable. May be fatal or cause blindness 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**

not applicable

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

not applicable

***UNITED STATES – SELECT STATE REGULATIONS*****California****Office of Environmental Health Hazard Assessment (OEHHA)****Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986**

This product is subject to the labeling requirements of Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986 and must bear the cautionary symbol and statement: ⚠ **WARNING!** Reproductive Harm - [www.P65Warnings.CA.gov](http://www.P65Warnings.CA.gov)

**Air Resources Board (ARB/CARB)****Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category**

not applicable

**Massachusetts****“Right-to-Know” Legislation – Substance List (105 CMR 670.000)**

N-Methyl-2-Pyrrolidone, 2-Butoxyethanol, Methanol, Carbon Dioxide

**New Jersey****“Right-to-Know” Legislation – Hazardous Substance List (34:5A-1, et seq.)**

N-Methyl-2-Pyrrolidone, 2-Butoxyethanol, Methyl Alcohol, Carbon Dioxide

**Pennsylvania****“Right-to-Know” Legislation – Hazardous Substance List (Chapter 323)**

N-Methyl-2-Pyrrolidone, 2-Butoxyethanol, Methyl Alcohol, 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.

***INTERNATIONAL – SELECT REGULATIONS (cont'd.)*****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	*	3	<b>Hazard Index</b>
Flammability		3	Least - 0
Reactivity		0	Slight - 1
Protective Equipment	B		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<sub>50</sub> – Median Effective Concentration

IATA – International Air Transport Association

## Index of Abbreviations (cont'd.)

ICAO – International Civil Aviation Organization  
IMDG – International Maritime Dangerous Goods  
IMO – International Maritime Organization  
LC<sub>50</sub> – Median Lethal Concentration  
LD<sub>50</sub> – 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

January 30, 2019

### Date of Previous Revision

N/A—initial SDS

### Primary Revision Change(s)

N/A

### Document Applicability

This safety data sheet applies to part number 2643 manufactured on or after November 1, 2018.

## Document Author

Dan Nowlan

## 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.



# Safety Data Sheet

## Section 1 – Identification of the Mixture and of the Company

### Product Identification

#### Primary Identifier(s) Used on the Label

Berryman *STEP 4 PROFESSIONAL FUEL SYSTEM CLEANER*

#### Product Synonym(s)

blend "TFSC-2"

#### Product Number(s)

2644

### Relevant Identified Uses and Uses Advised Against

#### Recommended Uses

gasoline fuel additive

#### Uses Advised Against

not for use in diesel fuels

### 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](http://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

Flammable Liquid – Category 2

#### Health Hazards

Acute Oral – Category 4

Acute Dermal – Category 4

Acute Inhalation – Category 4

Skin Irritant – Category 2

Eye Irritant – Category 2A

Carcinogen – Category 2

Developmental – Category 2

Specific Target Organ Toxicity - Single Exposure – Category 1

Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system, central nervous system)

Aspiration Hazard – Category 1

Environmental Hazard - Acute – Category 2

Environmental Hazard - Chronic – Category 3

### Allocation of Label Elements

#### Chemical Identity

Berryman *STEP 4 PROFESSIONAL FUEL SYSTEM CLEANER*

PictogramsSignal Word

DANGER

Hazard Statements

H225 – Highly flammable liquid and vapor.

H302 – Harmful if swallowed.

H304 – May be fatal if swallowed and enters airways.

H312 – Harmful in contact with skin.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H321 – Specific treatment (see supplemental first aid instructions this label/document).

H332 – Harmful if inhaled.

H351 – Suspected of causing cancer.

H361d – Suspected of damaging the unborn child.

H370 – Causes damage to organs.

H373 – May cause damage to blood/blood system and central nervous system through prolonged or repeated exposure.

H401 – Toxic to aquatic life.

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.

P210 – Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

P233 – Keep container tightly closed.

P240 – Ground/bond container and receiving equipment. Special precautions may be necessary for non-conductive containers.

P241 – Use explosion-proof electrical, ventilation, and lighting equipment.

P242 – Use only non-sparking tools, such as brass or bronze.

P243 – Take precautionary measures against static discharge.

P260 – Do not breathe fumes, gas, mist, vapor, or spray.

P264 – Wash thoroughly with soap and water 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.

P301/P310 – IF SWALLOWED: Immediately call POISON CONTROL CENTER, hospital emergency room, or doctor.

P303/P361/P353 – IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with soap and water 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/P311 – If exposed or concerned, call POISON CONTROL CENTER, hospital emergency room, or doctor.

P332/P313 – If skin irritation occurs, get medical advice/attention.

P337/P313 – If eye irritation persists, get medical advice/attention.

P361/364 – Immediately take off all contaminated clothing and laundry before reuse.

P362/364 – Take off contaminated clothing and laundry before reuse.

P370/P378 – In case of fire, use water fog, dry chemical, alcohol-resistant foam, or carbon dioxide to extinguish.

Storage Precautionary Statements

P405 – Store locked-up.

P403/P235 – Store in a well-ventilated place. Keep cool.

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

<u>Component</u>	<u>CAS RN</u>	<u>Weight</u>
Toluene	108-88-3	45-55%
Acetone	67-64-1	5-15%
Methanol	67-56-1	5-15%
Kerosene	8008-20-6	5-10%
2-Butoxyethanol	111-76-2	1-5%
Methyl Ethyl Ketone	78-93-3	1-5%
2-Propanol	67-63-0	1-5%
Ethylbenzene	100-41-4	<0.3%
Polyetheramine *	Mixture	N/A

\* this ingredient considered nonhazardous

## Section 4 – First Aid Measures

### Description of First Aid Measures

#### Ingestion

Immediately call poison control center, hospital, 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

Immediately take off all contaminated clothing. Rinse skin with 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

headache and lightheadedness; 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 spontaneous vomiting, severe headache, or loss of consciousness, seek immediate medical attention.

#### Specific Treatment and Notes to Physician

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 supports combustion.

#### Suitable Extinguishing Media

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

#### Unsuitable Extinguishing Media

water jet/spray (may cause product to float to surface and reignite)

### Special Hazards/Considerations

#### Combustion Products

Combustion in the presence of air may yield hydrocarbons, organic oxygenates, amines, and oxides of carbon and nitrogen.

### Special Protective Equipment and Precautions for Firefighters

#### Special Protective Equipment

Firefighters should employ SCBA and full protective gear as product may vent, rupture, or explode at elevated temperatures.

#### Precautions and Procedures

Highly flammable liquid and vapor. Vapors heavier than air. Remove product from area if safe to do so. Use water spray to cool nearby containers.

### Additional Information

#### National Fire Protection Association (NFPA)

flammable liquid classification IB



## Section 6 – Accidental Release Measures

### Personal and Environmental Precautions

#### Personal Precautions

Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Special precautions may be necessary for non-conductive containers. Use explosion-proof electrical, ventilation, and lighting equipment. Use only non-sparking tools, such as brass or bronze. Do not breathe mist or vapor. Wash thoroughly with soap and water 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

Utilize large socks/absorbent booms or other inert barrier to form dam/dike in order to contain spill 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 explosion-proof 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 mist or vapor. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke when using this product.

#### Environmental Precautions

Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Special precautions may be necessary for non-conductive containers. Use explosion-proof electrical, ventilation, and lighting equipment. Use only non-sparking tools, such as brass or bronze. Avoid release to the environment.

### Conditions and Considerations for Safe Storage

Highly flammable liquid and vapor. Store in a well-ventilated place. Keep cool. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Keep out of reach of children. Store locked-up and in accordance with NFPA flammable liquid classification IB recommendations.

## Section 8 – Exposure Controls/Personal Protection

<u>Component</u>	<u>CAS RN</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Toluene	108-88-3	200 ppm	20 ppm
Acetone	67-64-1	1000 ppm	500 ppm
Methanol	67-56-1	200 ppm	200 ppm
Kerosene	8008-20-6	NE	200 mg/m <sup>3</sup>
2-Butoxyethanol	111-76-2	50 ppm	20 ppm
Methyl Ethyl Ketone	78-93-3	200 ppm	200 ppm
2-Propanol	67-63-0	500 ppm	400 ppm
Ethylbenzene	100-41-4	100 ppm	100 ppm

### Exposure Controls

#### Appropriate Engineering Controls

If practical, use outside with adequate ventilation to minimize exposure.

#### PPE Overview

##### Hand Protection

Use of chemical-resistant gloves (EVAL, neoprene, nitrile/Buna-N, PVC, 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, amber to brown

**Odor**

aromatic (toluene)

**Odor Threshold**

0.5 ppm

**pH**

not relevant

**Freezing Point**

<0°F

**Boiling Range**

133 - 580°F

**Flash Point and Method**

<20°F by closed-cup tester

**Explosion Limits in Air**

2.1 - 13.3% by volume

**Evaporation Rate**

1.9 (n-Butyl Acetate=1.0)

**Vapor Pressure, as supplied**

49 mm of Hg at 68°F

**Vapor Density**

>1.0

**Specific Gravity**

0.845 at 68°F

**Density**

7.04 lb/gal at 68°F

**Water Solubility**

insoluble

**n-Octanol/Water Partition Coefficient (log P<sub>ow</sub>)**

2.0 (composite)

**Viscosity**

0.7 cSt at 68°F

**Volatility**

90 - 95% by weight

**Auto-Ignition temperature**

870°F (composite)

## Section 10 – Stability and Reactivity

### Chemical Stability under Normal Conditions of Use

**Chemical Stability**

Stable under normal conditions of use.

**Conditions Affording Instability**

none known

### Reactivity

not expected

### Possibility of Hazardous Reactions

none known

### Conditions to Avoid

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

### Hazardous Decomposition Products

none known

## 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**

virtually nontoxic after single ingestion of small quantity

#### 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**

drying, burning, or irritation of the mouth and throat; gastrointestinal disturbances; nausea and vomiting; blindness

##### **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, and 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**

fatigue

#### *LONG-TERM EXPOSURE*

##### Potential Immediate Effects

none known

##### Potential Delayed Effects

brain/central nervous system (CNS) effects

##### Potential Chronic Health Effects

##### **Carcinogenicity**

International Agency for Research on Cancer (IARC) Monographs

Group 2 – Possible Human Carcinogen (Ethylbenzene)

National Toxicology Program (NTP) Report on Carcinogens

not listed

Occupational Safety & Health Administration (OSHA)

not listed

##### **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, Methanol)

##### **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**

Includes central nervous system (narcotic effects) and respiratory tract (irritation)

#### **Repeated Exposure**

blood/blood system and brain/central nervous system (CNS) effects

### **Numerical Measures of Acute Toxicity**

#### **Oral (Rat)**

LD<sub>50</sub>: 580 mg/kg (derived)

#### **Dermal (Rabbit)**

LD<sub>50</sub>: 1660 mg/kg (derived)

#### **Inhalation (Rat)**

LC<sub>50</sub>: 12 mg/L (derived)

### **Additional Toxicological Information**

#### **Skin Irritation/Corrosion (Rabbit)**

skin irritant

#### **Serious Eye Damage/Irritation (Rabbit)**

eye irritant

#### **Respiratory Sensitization**

does not cause respiratory sensitization

#### **Skin Sensitization**

does not cause skin sensitization

#### **Aspiration Hazard**

known aspiration hazard

## **Section 12 – Ecological Information**

### **General Ecological Assessment/Overview**

Harmful to animal life. Acutely toxic to aquatic 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<sub>50</sub>: 42 mg/L (derived)

##### **Chronic Toxicity**

NOEC: 2.1 mg/L (derived)

#### **Invertebrates (Water Flea)**

##### **Acute Toxicity**

LC<sub>50</sub>: 3.7 mg/L (derived)

##### **Chronic Toxicity**

NOEC: 0.9 mg/L (derived)

#### **Aquatic Plants (Freshwater Algae)**

##### **Acute Toxicity**

EC<sub>50</sub>: 3.3 mg/L (derived)

##### **Chronic Toxicity**

NOEC: 250 mg/L (derived)

### **Terrestrial Toxicity**

#### **Invertebrate (Earthworm)**

LC<sub>50</sub>: 180 mg/L (derived)

### **Persistence and Degradability**

#### **Persistence**

not expected to be persistent

#### **Degradability**

rapidly degradable

### **Bioaccumulative Potential**

#### **Bioaccumulation Potential Assessment**

does not bioaccumulate

#### **Bioaccumulation Factor**

not available

**Mobility in Soils****Mobility in Soils Assessment**

very mobile in soils—may contaminate groundwater

**Soil Organic Carbon/Water Partition Coefficient (log K<sub>oc</sub>)**

4.2 (composite)

**Results of PBT and vPvB Assessment**

not a persistent, bioaccumulative, toxic chemical (PBT); not very persistent or 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. Acutely toxic to aquatic life and harmful to aquatic life with long-lasting effects—do not pour into waterways. Highly flammable liquid and vapor and 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 the regulations of RCRA and classified as F003 – spent non-halogenated solvent mixture containing acetone, methanol, and/or xylene

**Section 14 – Transportation Information****Transportation by Ground – US Department of Transportation****Shipping Description**

UN1993, Flammable Liquids, n.o.s., (contains Toluene & Methanol), 3, PG II

**Exemption Eligibility**

When shipped by ground, this product may be eligible for a “Limited Quantity” exception per §49 CFR 173.150.

**Transportation by Air – ICAO/IATA****Shipping Description**

UN1993, Flammable Liquids, n.o.s., (contains Toluene & Methanol), 3, PG II

**Exemption Eligibility**

When shipped by air, this product may be eligible for a “Limited Quantity” exception.

**Transportation by Water – IMO/IMDG****Shipping Description**

UN1993, Flammable Liquids, n.o.s., (contains Toluene & Methanol), 3, PG II

**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)**

Toluene, Methanol, Acetone, Methyl Ethyl Ketone

**Section 311/312 – Hazard Categorization (40 CFR 370.40)**

acute toxicity, chronic toxicity, fire hazard

**Section 313 – Toxic Chemicals (40 CFR 372.65)**

Toluene, Methanol, and 2-Butoxyethanol (“certain glycol ethers”)

**Clean Air Act (42 USC 7401, et seq.)****Section 112 – Hazardous Air Pollutants**

Toluene, Methanol, Methyl Ethyl Ketone

**Regulation of Fuels and Fuel Additives**

This product complies with the requirements of §40 CFR 80 and must be used in a manner consistent with the directions on the product label.

**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.

**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: Flammable. May be fatal or cause blindness if swallowed. Vapor harmful. Eye and skin irritant. Keep out of the reach of children.

***UNITED STATES – SELECT REGIONAL CONSIDERATIONS*****Ozone Transport Commission (OTC) – Model Rule VOC Limit and Category**

not regulated as a fuel additive

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

not regulated as a fuel additive

***UNITED STATES – SELECT STATE REGULATIONS*****California****Office of Environmental Health Hazard Assessment (OEHHHA)****Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop 65)**

This product is subject to the labeling requirements of Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986 and must bear the cautionary statement: WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**Air Resources Board (ARB/CARB)****Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category**

not regulated as a fuel additive

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

Toluene, Methanol, Acetone, Kerosene, 2-Propanol, Methyl Ethyl Ketone (MEK), 2-Butoxyethanol, Ethylbenzene

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

Toluene, Methyl Alcohol, Acetone, Kerosene, Isopropyl Alcohol, Methyl Ethyl Ketone, 2-Butoxyethanol, Ethylbenzene

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

Methylbenzene, Methanol, 2-Propanone, Kerosene (Petroleum), 2-Propanol, 2-Butanone, 2-Butoxyethanol, Ethylbenzene

***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.

**Section 16 – Other Information****Hazardous Materials Information System (HMIS)**

Health	*	2	<b>Hazard Index</b>
Flammability		3	Least - 0
Reactivity		0	Slight - 1
Protective Equipment	B		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<sub>50</sub> – Median Effective Concentration  
IATA – International Air Transport Association  
ICAO – International Civil Aviation Organization  
IMDG – International Maritime Dangerous Goods  
IMO – International Maritime Organization  
LC<sub>50</sub> – Median Lethal Concentration  
LD<sub>50</sub> – Median Lethal Dose  
N/A – Not Applicable  
NE – Not Established  
NOEC – No Observable Exposure Concentration  
PEL – Permissible Exposure Limit (as required by OSHA)  
SDS – Safety Data Sheet  
TLV – Threshold Limit Value (as recommended by ACGIH)  
VOC – Volatile Organic Compound

## Relevant Dates and Applicability

### Date of Issuance

September 2, 2022

### Date of Previous Revision

January 30, 2019

### Primary Revision Change(s)

general update

### Document Applicability

This safety data sheet only applies to part number 2644 manufactured on or after August 24, 2022.

## Document Author

Dan Nowlan

## 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.