

# Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200), Health Canada HPR (SOR/2015-17), and Mexico NOM-018-STPS-2015



## SECTION 1: Identification

**Product Identifier:** Smart Blend Fuel System Cleaner  
**Code:** 831779  
**Issue date:** 19-Mar-2021  
**Relevant identified uses:** Fuel additive  
**Uses advised against:** All others  
**24 Hour Emergency Phone Number:** CHEMTREC Global +1 703 527 3887  
CHEMTREC United States 1-800-424-9300  
CHEMTREC Mexico 01-800-681-9531  
**Manufacturer/Supplier:** Phillips 66 Spectrum Corporation  
500 Industrial Park Drive  
Selmer, TN 38375-3276  
United States of America  
**SDS Information:** URL: [www.phillips66.com/SDS](http://www.phillips66.com/SDS)  
Phone: 800-762-0942  
Email: [SDS@P66.com](mailto:SDS@P66.com)  
**Technical Information:** 1-800-264-6457 or +1-731-645-4972

## SECTION 2: Hazard identification

### Classified Hazards

H227 - Flammable liquids -- Category 4  
H304 -- Aspiration Hazard -- Category 1

### Hazards Not Otherwise Classified (HNOC)

PHNOC: None known

HHNOC: None known

### Label elements



#### DANGER

H227 - Combustible liquid  
H304 - May be fatal if swallowed and enters airways

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking; P280 - Wear protective gloves/protective clothing and eye/face protection; P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; P331 - Do NOT induce vomiting; P370 + P378 - In case of fire: Use CO2, dry chemical, or foam to extinguish; P403 + P235 - Store in a well-ventilated place. Keep cool; P405 - Store locked up; P501 - Dispose of contents/ container to an approved waste disposal plant

## SECTION 3: Composition/information on ingredients

| Chemical Name  | CASRN      | Concentration <sup>1</sup> |
|--|------------|----------------------------|
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 64742-47-8 | >95                        |

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

**Eye Contact:** If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin Contact:** Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and

water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

**Inhalation:** First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

**Ingestion:** Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

**Most important symptoms and effects, both acute and delayed:** While significant vapor concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Prolonged or repeated contact may dry skin and cause irritation.

**Notes to Physician:** Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

## SECTION 5: Firefighting measures

### NFPA 704: National Fire Protection Association

Health: 0

Flammability: 2

Instability: 0



0 = minimal hazard  
1 = slight hazard  
2 = moderate hazard  
3 = severe hazard  
4 = extreme hazard

**Extinguishing Media:** Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

### Specific hazards arising from the chemical

**Unusual Fire & Explosion Hazards:** Combustible. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). May create vapor/air explosion hazard if heated. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

**Special protective actions for fire-fighters:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Combustible. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods and material for containment and cleaning up:** Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

## SECTION 7: Handling and storage

**Precautions for safe handling:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use non-sparking tools. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. Open container slowly to relieve any pressure. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

**Conditions for safe storage:** Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

## SECTION 8: Exposure controls/personal protection

| Occupational exposure limits   |       |      |        |  |
|--|-------|------|--------|--|
| Chemical Name  | ACGIH | OSHA | Mexico | Phillips 66                            |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | ---   | ---  | ---    | TWA-8hr: 200 mg/m <sup>3</sup><br>Skin |

State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

### Biological occupational exposure limits

None.

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye/face protection is not normally required; however, good industrial hygiene practice suggests the use of eye protection that meets or exceeds ANSI Z.87.1 whenever working with chemicals.

**Skin/Hand Protection:** The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. Suggested protective materials: Nitrile rubber

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

**Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.**

## SECTION 9: Physical and chemical properties

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

|  |  |
|--|--|
| <b>Appearance:</b>                                       | Colorless Transparent                                |
| <b>Physical form of product:</b>                         | Liquid   |
| <b>Odor:</b>   | Slight hydrocarbon                                   |
| <b>Odor threshold:</b>                                   | No data  |
| <b>pH:</b>   | Not applicable                                       |
| <b>Melting / freezing point:</b>                         | No data  |
| <b>Initial boiling point and boiling range:</b>          | No data  |
| <b>Flash point:</b>                                      | 194 °F / 90 °C                                       |
| <b>Method:</b>   | Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010 |
| <b>Evaporation Rate (nBuAc=1):</b>                       | No data  |
| <b>Flammability (solid, gas):</b>                        | Not applicable                                       |
| <b>Upper Explosive Limits (vol % in air):</b>            | No data  |
| <b>Lower Explosive Limits (vol % in air):</b>            | No data  |
| <b>Vapor pressure:</b>                                   | No data  |
| <b>Vapor density:</b>                                    | No data  |
| <b>Relative density:</b>                                 | 0.824 @ 60°F (15.6°C)                                |
| <b>Solubility(ies):</b>                                  | No data  |
| <b>Partition coefficient n-octanol /water (log KOW):</b> | No data  |
| <b>Autoignition temperature:</b>                         | No data  |
| <b>Decomposition temperature:</b>                        | No data  |
| <b>Viscosity:</b>  | 1.02 cSt @ 100°C; 2.51 cSt @ 40°C                    |
| <b>Molecular weight:</b>                                 | No data  |

### Other information

|                       |              |
|-----------------------|--------------|
| <b>Particle Size:</b> | No data      |
| <b>Pour point:</b>    | No data      |
| <b>Bulk density</b>   | 6.86 lbs/gal |

## SECTION 10: Stability and reactivity

**Reactivity:** Not chemically reactive.

**Chemical stability:** Stable under normal ambient and anticipated conditions of use.

**Possibility of Hazardous Reactions:** Hazardous reactions not anticipated.

**Conditions to Avoid:** Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

**Incompatible Materials:** Avoid contact with strong oxidizing agents and strong reducing agents.

**Hazardous Decomposition Products:** Not anticipated under normal conditions of use.

## SECTION 11: Toxicological information

### Information on Toxicological Effects

#### Substance / Mixture

| Acute Toxicity | Hazard                 | Additional Information | LC50/LD50 Data            |
|----------------|------------------------|------------------------|---------------------------|
| Inhalation     | Unlikely to be harmful |                        | >5 mg/L (mist, estimated) |
| Dermal         | Unlikely to be harmful |                        | > 2 g/kg (estimated)      |
| Oral           | Unlikely to be harmful |                        | > 5 g/kg (estimated)      |

**Likely Routes of Exposure:** Inhalation, eye contact, skin contact

**Aspiration Hazard:** May be fatal if swallowed and enters airways

**Skin Corrosion/Irritation:** Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

**Serious Eye Damage/Irritation:** Not expected to be irritating.

**Skin Sensitization:** No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** Not expected to cause organ effects from single exposure. Based on component information

**Specific Target Organ Toxicity (Repeated Exposure):** Not expected to cause organ effects from repeated exposure.

**Carcinogenicity:** No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

**Germ Cell Mutagenicity:** No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

**Reproductive Toxicity:** No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

### Information on Toxicological Effects of Components

#### Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Reproductive Toxicity: Hydrodesulfurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (premating, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

## SECTION 12: Ecological information

### GHS Classification:

**No classified hazards**

**Toxicity:** Not expected to be harmful to aquatic organisms based on test data from the individual components or similar materials.

**Persistence and Degradability:** The hydrocarbons in this material are not readily biodegradable but are regarded as inherently biodegradable since their hydrocarbon components can be degraded by microorganisms.

**Bioaccumulative Potential:** Hydrocarbon constituents of kerosine show measured or predicted Log Kow values ranging from 3 to 6 and above and therefore would be regarded as having the potential to bioaccumulate. In practice, metabolic processes may

reduce bioconcentration.

**Mobility in Soil:** On release to water, hydrocarbons will float on the surface and since they are sparingly soluble, the only significant loss is volatilization to air. It is possible that some of the higher molecular weight hydrocarbons will be adsorbed on sediment. Biodegradation in water is a minor loss process. In air, these hydrocarbons are photodegraded by reaction with hydroxyl radicals with half lives varying from 0.1 to 0.7 days.

**Other adverse effects:** None anticipated.

## SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste. This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle used oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

## SECTION 14: Transport information

Shipping description is for bulk shipments with flashpoints below 200° F. Non-Bulk shipments and flashpoints equal to or above 200° F are unregulated.

**UN Number:** NA1993

**UN proper shipping name:** Combustible liquid, n.o.s

**Transport hazard class(es):** Combustible liquid

**Packing Group:** III

**Environmental Hazard(s):** This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant

**Special precautions for user:** If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

## SECTION 15: Regulatory information

### CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds)

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

### CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.


### CERCLA/SARA - Section 313 and 40 CFR 372

This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

### EPA (CERCLA) Reportable Quantity (in pounds)

This material does not contain any chemicals with CERCLA Reportable Quantities.

### California Proposition 65

 **WARNING.** This product can expose you to chemicals including Naphthalene (CASRN 91-20-3) which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### International Inventories

TSCA (United States): All ingredients are on the inventory or exempt from listing.  
All components are either on the DSL, or are exempt from DSL listing requirements.



## SECTION 16: Other information

| Issue date  | Previous Issue Date: | SDS Number | Status: |
|-------------|----------------------|------------|---------|
| 19-Mar-2021 | 22-Feb-2021          | 831779     | FINAL   |

### Revised Sections or Basis for Revision:

Environmental hazards (Section 12); Shipping information (Section 14)

### Mexican NOM-018-STPS-2015:

The information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

### Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P280 - Wear protective gloves/protective clothing and eye/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P331 - Do NOT induce vomiting

P370 + P378 - In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

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

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

### Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; HPR = Hazardous Products Regulations; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

### Disclaimer of Expressed and implied Warranties:

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

# Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200), Health Canada HPR (SOR/2015-17), and Mexico NOM-018-STPS-2015



## SECTION 1: Identification

|                                       |   |
|---------------------------------------|---|
| <b>Product Identifier</b>             | <b>Smart Blend Total Intake System Cleaner</b>  |
| <b>Code</b>                           | <b>830392</b>   |
| <b>Issue date</b>                     | 17-Feb-2020   |
| <b>Relevant identified uses</b>       | Intake System Cleaner   |
| <b>Uses advised against</b>           | All others  |
| <b>24 Hour Emergency Phone Number</b> | CHEMTREC: 1-800-424-9300<br>CHEMTREC Mexico 01-800-681-9531<br>CHEMTREC Global +1 703 527 3887  |
| <b>Manufacturer/Supplier</b>          | Phillips 66 Spectrum Corporation<br>500 Industrial Park Drive<br>Selmer, TN 38375-3276<br>United States of America                                    |
| <b>SDS Information</b>                | URL: <a href="http://www.phillips66.com/SDS">www.phillips66.com/SDS</a><br>Phone: 800-762-0942<br>Email: <a href="mailto:SDS@P66.com">SDS@P66.com</a> |
| <b>Technical Information</b>          | 1-800-264-6457 or +1-731-645-4972   |

## SECTION 2: Hazard identification

### Classified Hazards

H222 - Extremely flammable aerosol -- Category 1  
H280 -- Gases under pressure -- Compressed gas  
H302 -- Acute Toxicity, Oral -- Category 4  
H315 -- Skin corrosion/irritation -- Category 2  
H319 -- Eye damage/irritation -- Category 2A  
H335 -- Specific target organ toxicity (single exposure) -- Category 3  
H360d -- Reproductive toxicity -- Category 1B

### Hazards Not Otherwise Classified (HNOC)

PHNOC: None known

HHNOC: None known

## Label elements



### DANGER

H222 - Extremely flammable aerosol  
H280 - Contains gas under pressure; may explode if heated  
H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H360D - May damage the unborn child



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/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 dust/fume/gas/mist/vapors/spray; P263 - Avoid contact during pregnancy/while nursing; P264 - Wash skin thoroughly after handling; P270 - Do not eat, drink or smoke when using this product; P271 - Use only outdoors or in a well-ventilated area; P280 - Wear protective gloves/protective clothing and eye/face protection; P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell; P330 - Rinse mouth; P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; P312 - Call a POISON CENTER or doctor/physician if you feel unwell; P302 + P352 - IF ON SKIN: Wash with plenty of soap and water; P332 + P313 - If skin irritation occurs: Get medical advice/attention; P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing; P337 + P313 - If eye irritation persists: Get medical advice/attention; P308 + P313 - IF exposed or concerned: Get medical advice/attention; P362 - Take off contaminated clothing and wash before reuse; P403 + P233 - Store in a well-ventilated place. Keep container tightly closed; P405 - Store locked up; P410 - Protect from sunlight; P412 - Do not expose to temperatures exceeding 50 °C/122 °F; P501 - Dispose of contents/ container to an approved waste disposal plant



### SECTION 3: Composition/information on ingredients

| Chemical Name          | CASRN    | Concentration <sup>1</sup> |
|------------------------|----------|----------------------------|
| Dimethyl ether         | 115-10-6 | 65-75                      |
| 2-Furfurylamine        | 617-89-0 | 1-10                       |
| Acetonitrile           | 75-05-8  | 1-10                       |
| Monoisopropylamine     | 75-31-0  | 1-10                       |
| 1-Methyl-2-pyrrolidone | 872-50-4 | 1-10                       |

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### SECTION 4: First aid measures

**Eye Contact:** For direct contact, remove contact lenses if present and easy to do. Immediately hold eyelids apart and flush the affected eye(s) with clean water for at least 20 minutes. Seek immediate medical attention.

**Skin Contact:** Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse.

**Inhalation:** If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

**Ingestion:** If swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on the left side with the head down and do not give anything by mouth. If victim is conscious and alert and ingestion occurred within the last hour, vomiting should be induced for ingestions of several swallows (2 ounces in an adult) preferably under direction from a physician or poison center. Do not leave victim unattended and observe closely for adequacy of breathing.

**Most important symptoms and effects, both acute and delayed:** Prolonged or repeated contact may dry skin and cause irritation. Effects of overexposure may include signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue), irritation of the digestive tract, irritation of the respiratory tract.

### SECTION 5: Firefighting measures

#### NFPA 704: National Fire Protection Association

Health: 2      Flammability: 4      Instability: 0



0 = minimal hazard  
1 = slight hazard  
2 = moderate hazard  
3 = severe hazard  
4 = extreme hazard

**Extinguishing Media:** Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

#### Specific hazards arising from the chemical

**Unusual Fire & Explosion Hazards:** Contents under pressure. Extremely flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe) Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the

heat of a fire. Liquid hydrocarbons may be present in sufficient quantity to create fire hazard.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

**Special protective actions for fire-fighters:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Avoid spreading burning liquid with water used for cooling purposes. Cool equipment exposed to fire with water, if it can be done safely. Use shielding to protect fire-fighters from bursting containers.

**See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits**

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Extremely flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

**Methods and material for containment and cleaning up:** Notify relevant authorities in accordance with all applicable regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

## SECTION 7: Handling and storage

**Precautions for safe handling:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Use only with adequate ventilation. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe vapor or mist. Avoid contact during pregnancy/while nursing. Avoid contact with eyes. Avoid contact with skin. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Extremely Flammable. Contents under pressure. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

**Conditions for safe storage:** Avoid exposing any part of a compressed-gas cylinder to temperatures above 125F(51.6C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency. Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Keep container tightly closed in a

dry and well-ventilated place P102 - Keep out of reach of children. Store locked up

## SECTION 8: Exposure controls/personal protection

| Occupational exposure limits |                                |  |  |             |
|------------------------------|--------------------------------|--|--|-------------|
| Chemical Name                | ACGIH                          | OSHA   | Mexico   | Phillips 66 |
| Acetonitrile                 | TWA-8hr: 20 ppm                | TWA-8hr: 40 ppm<br>TWA-8hr: 70 mg/m <sup>3</sup><br>TWA-8hr: 5 mg/m <sup>3</sup><br>Skin | TWA-8hr: 20 ppm<br>(VLE-PPT)<br>Carcinogen<br>Skin   | ---         |
| Monoisopropylamine           | TWA-8hr: 5 ppm<br>STEL: 10 ppm | TWA-8hr: 5 ppm<br>TWA-8hr: 12 mg/m <sup>3</sup>  | TWA-8hr: 5 ppm<br>(VLE-PPT)<br>TWA-8hr: 12 mg/m <sup>3</sup><br>(VLE-PPT)<br>STEL: 10 ppm (PPT-CT) | ---         |

State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

| Biological occupational exposure limits |  |   |
|---|--|---|
| Chemical Name                           | ACGIH  | Mexican NOM-047-SSA1-2011   |
| 1-Methyl-2-pyrrolidone                  | 5-Hydroxy-N-methyl-2-pyrrolidone in urine: 100 mg/L (end of shift) | 5-Hydroxy-n-methyl-2-pyrrolidone in urine: 100 mg/L (end of work shift) |

State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information. --- = None.

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Butyl rubber

**Respiratory Protection:** A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

**Other Protective Equipment:** Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

## SECTION 9: Physical and chemical properties

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

**Appearance:** Light amber, clear  
**Physical Form:** Aerosol  
**Odor:** Solvent  
**Odor Threshold:** No data  
**pH:** Not applicable

**Flash Point:** -42 °F / -41 °C  
**Test Method:** Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010  
**Initial Boiling Point/Range:** No data  
**Vapor Pressure:** No data  
**Partition Coefficient (n-octanol/water) (Kow):** No data

Vapor Density (air=1): >1  
Upper Explosive Limits (vol % in air): No data  
Lower Explosive Limits (vol % in air): No data  
Evaporation Rate (nBuAc=1): No data  
Particle Size: Not applicable  
Percent Volatile: No data  
Flammability (solid, gas): Not applicable  
Solubility in Water: Insoluble  
Melting/Freezing Point: No data  
Auto-ignition Temperature: No data  
Decomposition Temperature: No data  
Specific Gravity (water=1): 0.745 @ 60°F (15.6°C)  
Bulk Density: No data  
Viscosity: No data  
Pour Point: No data  
VOC Content (%): 78.97

## SECTION 10: Stability and reactivity

**Reactivity:** Not chemically reactive.

**Chemical stability:** Stable under normal ambient and anticipated conditions of use.

**Possibility of hazardous reactions:** Hazardous reactions not anticipated.

**Conditions to avoid:** Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

**Incompatible materials:** Avoid contact with strong acids, strong oxidizing agents, alkali metals.

**Hazardous decomposition products:** carbon oxides

## SECTION 11: Toxicological information

### Information on Toxicological Effects

#### Substance / Mixture

| Acute Toxicity | Hazard                 | Additional Information | LC50/LD50 Data               |
|----------------|------------------------|------------------------|------------------------------|
| Inhalation     | Unlikely to be harmful |                        | > 20 mg/L (vapor, estimated) |
| Dermal         | Unlikely to be harmful |                        | > 2 g/kg (estimated)         |
| Oral           | Harmful if swallowed   |                        | 0.92 g/kg; (estimated)       |

**Likely Routes of Exposure:** Inhalation, eye contact, skin contact

**Aspiration Hazard:** Not expected to be an aspiration hazard

**Skin Corrosion/Irritation:** Causes skin irritation.

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Skin Sensitization:** No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** May cause respiratory irritation. Based on component information

**Specific Target Organ Toxicity (Repeated Exposure):** No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

**Carcinogenicity:** No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

**Germ Cell Mutagenicity:** No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

**Reproductive Toxicity:** May damage the unborn child . Based on component information.

**Other Comments:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

**Information on Toxicological Effects of Components**

**1-Methyl-2-pyrrolidone**

**Reproductive Toxicity:** N-methyl-2-pyrrolidone has been shown to cause abnormalities in the offspring of rats, but only at maternally toxic doses.

## SECTION 12: Ecological information

**GHS Classification:**

**No classified hazards**

**Toxicity:** As a gas, this material will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment.

**Persistence and Degradability:** The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process.

**Bioaccumulative Potential:** Substance is expected to possess low bioaccumulation potential.

**Mobility in Soil:** Substance is expected to possess low mobility in soil.

**Other adverse effects:** None anticipated.

## SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste. Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinseates could be considered to be hazardous wastes.

**EPA Waste Number(s)**

- D001 - Ignitability characteristic

## SECTION 14: Transport information

**UN Number:** UN1950

**UN proper shipping name:** Aerosols, flammable, LTD. QTY

**Transport hazard class(es):** 2.1

**Packing Group:** None

**Environmental Hazard(s):** This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant

**Special precautions for user:** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

## SECTION 15: Regulatory information

**CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds)**

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

**CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CERCLA/SARA - Section 313 and 40 CFR 372**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

| Chemical Name          | Concentration <sup>1</sup> | de minimis |
|------------------------|----------------------------|------------|
| Acetonitrile           | 1-10                       | 1.0%       |
| 1-Methyl-2-pyrrolidone | 1-10                       | 1.0%       |

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**EPA (CERCLA) Reportable Quantity (in pounds)**

This material contains the following chemicals subject to the reporting requirements of 40 CFR 302.4:

| Chemical Name | RQ      |
|---------------|---------|
| Acetonitrile  | 5000 lb |

**California Proposition 65**

**WARNING.** This product can expose you to chemicals including 1-Methyl-2-pyrrolidone (CASRN 872-50-4) which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.

All components are either on the DSL, or are exempt from DSL listing requirements.

**SECTION 16: Other information**

| Issue date  | Previous Issue Date: | SDS Number | Status: |
|-------------|----------------------|------------|---------|
| 17-Feb-2020 | 18-Mar-2019          | 830392     | FINAL   |

**Revised Sections or Basis for Revision:**

Periodic review and update

**Mexican NOM-018-STPS-2015:**

The information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

**Precautionary Statements:**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 dust/fume/gas/mist/vapors/spray

P263 - Avoid contact during pregnancy/while nursing

P264 - Wash skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

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

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

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

P337 + P313 - If eye irritation persists: Get medical advice/attention

P308 + P313 - IF exposed or concerned: Get medical advice/attention



P362 - Take off contaminated clothing and wash before reuse  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P410 - Protect from sunlight  
P412 - Do not expose to temperatures exceeding 50 °C/122 °F  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; HPR = Hazardous Products Regulations; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

**Disclaimer of Expressed and implied Warranties:**

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