

SAFETY DATA SHEET



SAE 5W-20

Section 1. Identification

Product identifier : SAE 5W-20
Product code : 301907175008
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Consumer products: Lubricating Oil Industrial applications: Lubricating Oil	
Uses advised against	Reason
None known.	

Supplier's details : Calumet Branded Products, LLC
2780 Waterfront Pkwy E. Drive Suite 200
Indianapolis, IN 46214
USA
Technical Services:317-328-5660

24hr. CHEMTREC : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887
1-800-424-9300 /
International 1-703-527-3887

Section 2. Hazard identification

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1.1%
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1.1%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1.1%

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

Ingredient name	% (w/w)	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	86.43	64742-54-7
Distillates (petroleum), hydrotreated heavy paraffinic	2.28 - 6.84	64742-54-7
Lubricating oils (petroleum), hydrotreated spent	1.9812	64742-58-1
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	0.57 - 1.14	2215-35-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 5 mg/m ³ 8 hours. Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Form: Mist CA Quebec Provincial (Canada, 1/2014). TWAEV: 5 mg/m ³ 8 hours. Form: mist STEV: 10 mg/m ³ 15 minutes. Form: mist
Distillates (petroleum), hydrotreated heavy paraffinic	CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 5 mg/m ³ 8 hours. Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Form: Mist CA Quebec Provincial (Canada, 1/2014). TWAEV: 5 mg/m ³ 8 hours. Form: mist STEV: 10 mg/m ³ 15 minutes. Form: mist
Lubricating oils (petroleum), hydrotreated spent	ACGIH TLV (United States). TWA: 5 mg/m ³ , (Inhalable Mist) 8 hours.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Purple.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Open cup: 227°C (440.6°F) [Cleveland.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.856
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C (104°F)): 0.4388 cm²/s (43.88 cSt)

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	5.7 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	>5.53 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Lubricating oils (petroleum), hydrotreated spent	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	LC50 Inhalation Dusts and mists	Rat	>2 mg/l	1 hours
	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	Skin - Moderate irritant	Rat	-	-	-
	Eyes - Moderate irritant	Rat	-	-	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	skin	Guinea pig	Not sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	OECD 471 Bacterial Reverse Mutation Test	Subject: Bacteria	Negative

Carcinogenicity

Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	-	-	-	Rat - Male, Female	Oral: 160 mg/kg	-

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Name	Result
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	228070.2 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EC50 >100 mg/l	Daphnia	48 hours
Distillates (petroleum), hydrotreated heavy paraffinic	Acute IC50 >100 mg/l	Algae	72 hours
Distillates (petroleum), hydrotreated heavy paraffinic	Acute LC50 >100 mg/l	Fish	96 hours
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EC50 >100 mg/l	Algae	72 hours
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	Acute EC50 >100 mg/l	Daphnia	48 hours
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	Acute LC50 >100 mg/l	Fish	96 hours
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	Chronic NOEL >1 mg/l	Daphnia	21 days
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	EC50 >100 mg/l	Aquatic plants	3 days
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	EC50 23 mg/l	Daphnia	2 days
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	LC50 4.5 mg/l	Fish	4 days
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	NOEC 0.4 mg/l	Daphnia	21 days
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	NOEC 1.8 mg/l	Fish	4 days

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - 28 days	-	-
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Not readily
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Inherent
zinc O,O,O',O'-tetrakis(1, 3-dimethylbutyl) bis (phosphorodithioate)	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Distillates (petroleum), hydrotreated heavy paraffinic	>6	-	high
Distillates (petroleum), hydrotreated heavy paraffinic	>6	-	high

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: zinc (and its compounds)
CEPA Toxic substances : None of the components are listed.

Inventory list

Australia : Not determined.
Canada : All components are listed or exempted.
China : At least one component is not listed.
Europe : All components are listed or exempted.
Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : Not determined.
Republic of Korea : All components are listed or exempted.
Taiwan : At least one component is not listed.
Thailand : Not determined.
Turkey : Not determined.
United States : All components are listed or exempted.
Viet Nam : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 02/05/2019

Version : 2

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

Procedure used to derive the classification

Classification	Justification
Not classified.	

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.