



## Safety Data Sheet

Prepared according to GHS

### 1. Identification

<b>Product Name</b>	<b>Kensol® Bio 1514</b>
<b>Product Code</b>	<b>4203</b>
<b>Recommended Use or uses advised against</b>	<b>Lubricant</b>
<b>Company</b>	American Refining Group, Inc. 77 North Kendall Avenue Bradford, PA 16701 www.amref.com msds@amref.com
<b>Emergency Telephone Number(s)</b>	Chemtrec 1-800-424-9300 (24 HRS) ARG: 814-368-1297 (24 HRS)

### 2. Hazards Identification

<b>GHS Classification</b>	Aspiration Hazard Category 1
<b>Signal Word</b>	DANGER!
<b>Hazard Statements</b>	May be fatal if swallowed and enters airways.
<b>GHS Pictogram</b>	

<b>Precautionary Statements</b>	If swallowed: immediately call a poison center/ doctor to specify the appropriate source of emergency medical advice. Do NOT induce vomiting.
---------------------------------	--

### 3. Composition / Information on Ingredients

CAS No.	Component	Percent
1581740-29-5	1,6,10- Dodecatriene, 7,11-dimethyl-3-methylene-, (6E)-, hydrogenated	15-55
3891-98-3	Farnesane	25-65
112-41-4	Dodec-1-ene	0-35
1120-36-1	Tetradec-1-ene	0-35
629-73-2	Hexadec-1-ene	0-35
1472005-85-8	Alkenes, C10-16-, mixed with (6E)-7, 11-dimethyl-3-methylene-1,6,10-dodecatriene, dimers and trimers hydrogenated	0-10

#### 4. First Aid Measures

<b>Eyes</b>	If easy to do, remove contact lenses. Immediately flush eyes with copious quantities of water for a minimal of 15 minutes. If irritation persists, call physician.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. If irritation persists, get medical attention immediately.
<b>Inhalation</b>	Immediately move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Ingestion</b>	DO NOT INDUCE VOMITING. If conscious, rinse out mouth with water. Seek medical attention immediately.
<b>Symptoms(Acute and delayed) Note to Physicians</b>	May be fatal if swallowed and enters airways. Treat symptomatically and supportively. If accidental exposure occurs to an individual who is also taking one or more concomitant medications, consult the respective package or prescribing information for potential drug interactions.

#### 5. Fire Fighting Measures

**Suitable Extinguishing Media**

Use dry chemical, CO<sub>2</sub>, water spray (FOG) or foam

**Unsuitable Extinguishing Media**

Avoid solid water stream as it may scatter and spread fire.

**Specific Hazards Arising from Chemical**

No information identified. May emit toxic fumes of carbon monoxide and carbon dioxide. Vapors may form explosive mixtures with air.

**Protective Equipment and Precautions for Firefighters**

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

#### 6. Accidental Release Measures

**Personal Precautions**

Put on appropriate personal protective equipment. Area should be adequately ventilated.

**Environmental Precautions**

Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

**Methods for Containment**

Stop leak if without risk.

**Methods for Cleanup**

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled container

#### 7. Handling and Storage

**Handling Procedures**

**7. Handling and Storage**

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. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Use non-sparking tools.

**Shipping and Storing Procedures**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat. Protect from light. Keep in properly labeled containers. Keep out of the reach of children. Do not store in heat or direct sunlight

**8. Exposure Controls / Personal Protection**

**Engineering Controls**

Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/or enclosure at mist/aerosol/spray-generating point. High-energy operations such as spraying should be done within an approved emission control or containment system.

**Eye/Face Protection**

Chemical goggles or face shield.

**Skin Protection**

Chemical resistant, impervious gloves complying with an approved standard should be worn at all times. Coveralls, apron, and boots as necessary to minimize contact.

**Respiratory Protection**

Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. An approved and properly fitted air-purifying respirator with HEPA filters should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls. Use a powered air-purifying respirator equipped with HEPA filters or combination filters or a p

**General Hygiene**

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.

**9. Physical and Chemical Properties**

*Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Please see the Product Specification Sheet for further information.*

<b>Appearance</b>	Clear to pale yellow	<b>Flammability</b>	Not Available
<b>Physical State</b>	Liquid	<b>Upper/Lower Flammability Limits</b>	Not Available
<b>Odor</b>	Paraffinic	<b>Vapor Pressure(20°C mm Hg)</b>	0.00
<b>Odor Threshold</b>	Not Available	<b>Vapor Density</b>	Not Available
<b>pH</b>	Not Available	<b>Relative Density (g/ml)</b>	.775
<b>Melting/Freezing Point (°F)</b>	Not Available	<b>Water Soluble</b>	No
<b>Initial Boiling Point (°F)</b>	396	<b>Partition Coefficient: n-octanol/water</b>	Not Available

9. Physical and Chemical Properties			
<b>Boiling Range (°F)</b>	Not Available	<b>Auto-ignition Temperature (°F)</b>	Not Available
<b>Flash Point (°F)</b> Cleveland Open Cup ASTM D-92	223	<b>Decomposition Temperature (°F)</b>	Not Available
<b>Evaporation Rate</b>	Not Available	<b>Viscosity (40°C mm<sup>2</sup>/s)</b>	1.-2.4
<b>Volatile Organic Compounds (g/L)</b>	Not Available	<b>Aromatic Content (Typical Mass %)</b>	Not Available

<b>10. Chemical Stability &amp; Reactivity Information</b>
--

<b>Reactivity</b>	No information identified
<b>Chemical Stability</b>	Stable under normal conditions
<b>Hazardous Reactions</b>	Not expected to occur.
<b>Conditions to Avoid</b>	High temperatures, flames, sparks
<b>Incompatibility</b>	Strong acids and oxidizing materials
<b>Hazardous Decomposition Products</b>	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

<b>11. Toxicological Information</b>
--------------------------------------

**Acute Toxicity**

Compound	Type	Route	Species	Dose
1,6,10-Dodecatriene, 7,11 –dimethyl-3-methylene-, (6E)-, hydrogenated	--	--	--	--
Farnesane	LC50 LD50 LD50	Inhalation Oral Dermal	Rat Rat Rabbit	>2.19mg/L >5000 mg/kg >5000 mg/kg
Dodec-1-ene	--	--	--	--
Tetradec-1-ene	--	--	--	--
Hexadec-1-ene	--	--	--	--
Alkenes, C10-16-, reaction products with (6E)-7, 11-dimethyl-3-methylene-1, 6,10-dodecatriene, dimers and trimers hydrogenated	None	None	None	None

**Irritation/Corrosion**

In rabbits, farnesane was not considered and irritant under GHS or CLP. In *in vitro* eye and skin tests (MatTek Epicular MTT viability assay, MatTek Epiderm skin irritation test) farnesane was non-irritating. In human 48 hour patch testing, farnesane was considered non-irritating. In HRIPT, irritation was noted as the pure substance under highly localized and occluded conditions. At lower concentrations or with open application, mild to no irritation was observed; No irritation was observed at concentrations of up to 60%.

**11. Toxicological Information**

<b>Sensitization</b>	In three human repeated patch studies, farnesane was not considered to be a sensitizer ranging from concentrations of 20%-80%
<b>Aspiration Hazards</b>	If swallowed can be aspirated into lungs and cause chemical pneumonia, varying degrees of pulmonary injury or death. If swallowed, do NOT induce vomiting.
<b>Target Organ Effects</b>	No studies identified.
<b>Carcinogenicity</b>	No studies identified. This mixture is not listed by NTP, IARC, ACGIH or OSHA as a carcinogen.
<b>Mutagenicity</b>	No studies identified.
<b>Reproductive Toxicity</b>	No studies identified.
<b>Teratogenicity</b>	No studies identified.

**12. Ecological Information**

Compound	Type	Species	Concentration
1,6,10-Dodecatriene, 7,11 –dimethyl-3-methylene-, (6E)-, hydrogenated	--	--	--
Farnesane	96hEC50 NOEC (21 day) NOEC (21 day)	<i>Pseudokirchneriella subcapitata</i> <i>Pimephales promelas</i> <i>Daphnia magna</i>	>86ug/L 66 ug/L 54 ug/L
Dodec-1-ene	72hEC50 48hEC50 96hLC50	Algae Daphnia Fish	>0.00093 mg/L (solubility) >0.0028 mg/L (solubility) >0.0034mg/l (solubility)
Tetradec-1-ene	72hEL50 48hEL50 96hLL50 28hNOEC	Aquatic plants Daphnia Fish Microorganism	>1000 mg/L >1000 mg/L >1000 mg/L 2 mg/L
Hexadec-1-ene	72hEL50 48hEL50 96hLL500 28dEC20	Aquatic plants Daphnia Fish Microorganism	>1000 mg/L <1000 mg/L >1000 mg/L >4mg/L
Alkenes, C10-16-, reaction products with (6E)-7, 11-dimethyl-3-methylene-1, 6,10-dodecatriene, dimers and trimers hydrogenated	48hEL50	Daphnia	>100mg/L WAF

**Additional toxicity information**      Based on the results from similar substances, farnesane is not expected to inhibit the activity of sewage sludge micro-organisms.

**Persistence & Degradability**

In a CO2-evolution ready biodegradability tests (OECD301B), farnesane degradation was between 12-44% by 28 days. In addition, modelled data (EpiSuite c 4.11, BIOWIN v4.10 and BioHCW in v1.01), predict that farnesane will not be readily biodegradable, that it will be ultimately biodegradable in a period of weeks to months and that the half-life is 22 days. The measured half-life in a sea water biodegradation study was 3.5 days (CONCAWE). Dodec-1-ene and hexadec-1-ene are readily biodegradable and show a low bioaccumulation potential.

**Bioaccumulation Potential**

Farnesane predicted range 1074 to 1944 L/kg wet-wt by modelling (EpiSuite v4.11 and BCFBAF v3.01. Based on predicted values of less than 2000L/kg wet-wt farnesane is not expected to bio accumulate.

**Soil Mobility**

Not expected to be mobile in soil. Predicted log Koc:5.8-6.6 (Kowwin method).

**Other Adverse Effects**

No data Available

**13. Disposal Considerations**

**Disposal Instructions**

The generation of waste should be avoided or minimized wherever possible. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

**14. Transportation Information**

<b>Emergency Response Guide No.</b>	171	<i>North American Emergency Response Guide Book</i>			
UN Number	Shipping Name (technical name)	Hazard Class	Packing Group	Placard/Label	
<b>U.S. DOT</b>	Not Regulated				
<b>IMDG</b>	Not Regulated				

**15. Regulatory Information**

**SARA Extremely Hazardous Substances (Sections 302 & 304)**

This product does not contain greater than 1% of any “extremely hazardous substances” listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA Section 313**

This product does not contain greater than 1.0% of the substances subject to the reporting requirements of Section 313 of Title III of the

**15. Regulatory Information**

Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**SARA Section 311 & 312 Classifications**

**Physical Hazards** No

**Health Hazards** Yes

*Aspiration Hazard*

**CERCLA**

This product does not contain any “hazardous substances” listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.

**California Prop 65**

This product is not routinely tested to determine chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components.

**California Air Resource Board (CARB)**

This product is considered a Low Vapor Pressure – Volatile Organic Compound (LVP-VOC) according to the CARB. This product meets one of the following requirements in order to be considered a LVP-VOC:

(A) has a vapor pressure less than 0.1 mm Hg at 20°C, as determined by ARB Method 310; or

(B) is a chemical “compound” with more than 12 carbon atoms, or a chemical “mixture” comprised solely of “compounds” with more than 12 carbon atoms, as verified by formulation data, and the vapor pressure and boiling point are unknown; or

(C) is a chemical “compound” with a boiling point greater than 216°C, as determined by ARB Method 310; or

(D) is the weight percent of a chemical “mixture” that boils above 216°C, as determined by ARB Method 310.

**California Air Resource Board (CARB) Bin Number**

20

**Global Chemical Inventories**

**16. Other Information**

**US NFPA Ratings**

Health	Fire	Reactivity
0	1	0

**HMIS Ratings**

Health	Fire	Physical Hazards
0	1	0

**Revision Date**

26 January 2017

**16. Other Information**

**Revision Reason**

New SDS

*The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.*

**End of SDS**