SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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Product identifier	SynNova® 4 Base Oil
Synonyms	Proprietary
Trade names	Not applicable
Chemical family	Branched paraffinic hydrocarbons
REACH registration	01-2120836642-54-0000
Relevant identified uses of the substance or mixture and uses advised against	Intended for use in automotive and industrial lubricants. Not for human or animal consumption.
Issue Date	31 July 2020

SECTION 2 - HAZARDS IDENTIFICATION

GHS classification of the substance or mixture Regulation (EC) 1272/2008 [GHS] and 2012 OSHA Hazard Communication Standard, 29 CFR 1910.1200 Aspiration hazard - Category 1. H304

CLP/GHS hazard pictogram

CLP/GHS signal word Danger

CLP/GHS hazard statements H304 - May be fatal if swallowed and enters airways.

CLP/GHS precautionary statements	P301+P310: IF SWALLOWED: Immediately call a Poison Center or doctor/ physician. P331 - Do NOT induce vomiting. P405 - Store locked up. P501 - Dispose of contents/container to location in accordance with local/regional/ national/international regulations.

Other hazards No information identified.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS #	Percent	Classification
Octadecene, reaction products with hexadecene, hydrogenated	2241366-04-9	100%	H304

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed	Yes
Eye Contact	If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.
Skin Contact	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
Inhalation	Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.
Ingestion	If swallowed, call a physician immediately. Do not induce vomiting unless directed by medical personnel. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.
Protection of first aid responders	See Section 8 for Exposure Controls/Personal Protection recommendations.
Most important symptoms and effects, both acute and delayed	The product is not an irritant to skin and eye. The main hazard is associated with aspiration. No specific symptoms are proposed.
Indication of immediate medical attention and special treatment needed, if necessary	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.

SECTION 5 - FIREFIGHTING MEASURES

Extinguishing media	Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Specific hazards arising from the substance or mixture	No hazard identified. May emit toxic fumes of carbon monoxide and carbon dioxide.

Flammability/Explosivity	No explosivity or flammability hazard. High airborne concentrations of finely divided organic particles can potentially explode if ignited.
Advice for firefighters	Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated.
Environmental precautions	Do not empty into drains. Avoid release to the environment.
Methods and material for containment and cleaning up	For small spills (such as in a laboratory), soak up material with absorbent pads and wash spill area thoroughly with soap and water. For large spills in manufacturing, absorb liquid with an appropriate adsorbent. Do not raise dust. Eliminate ignition sources. Use only equipment suitable for use with combustible liquids. Place spill materials into a leak-proof container suitable for disposal. Dispose of material in a manner that is compliant with federal, state and local laws.
Reference to other sections	See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling	The substance is safe to handle under normal conditions of use. Avoid contact with eyes, skin and other mucous membranes. Wash thoroughly after handling. Use personal protective equipment. Avoid breathing vapor. Do not eat, drink or smoke while handling this product. Avoid prolonged or repeated exposure. Provide sufficient air exchange and/or exhaust in workrooms. Take precautionary measures against static discharges. Use normal preventative fire protection measures. Do not cut or weld empty containers as they may contain a residue.
Conditions for safe storage including any incompatibilities	Keep container tightly closed. Keep in a cool and well-ventilated area away from any ignition source. To maintain product quality, do not store in heat or direct sunlight.
Specific end use(s)	No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	AUS HSIS: None Listed. US OSHA 29 CFR Part 1 910 Subpart Z: None listed US ACGIH-TLV: None listed US NIOSH REL: None listed German MAK: None Listed EU OEL: None Listed.

Exposure/Engineering controls

	Provide ventilation. Use local exhaust and/ or enclosure at mist/aerosol/spray-generating points. High-energy operations such as spraying should be done within an approved emission control or containment system. Remove ignition sources. Do not ingest. If swallowed, then seek immediate medical assistance. Keep away from children.
Respiratory protection	If adequate ventilation is unavailable, use a NIOSH approved N95 or P95 dust mask or an approved and properly fitted air-purifying respirator with organic vapor cartridge based on an assessment of risk and exposure level. Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls.
Hand protection	Wear nitrile or impervious gloves if skin contact is possible.
Skin protection	Wear appropriate lab coat or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use.
Eye/face protection	Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Environmental Exposure Controls	Avoid release to the environment and operate within closed systems wherever practicable. Air and liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Other protective measures	Wash hands in the event of contact with this substance, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors). Decontaminate all protective equipment following use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Color	Colorless to pale-yellow
Odor	No information identified.
Odor threshold	No information identified.
pH	No information identified.
Melting point/freezing point	No information identified
Initial boiling point and boiling range	400 °C (initial) - 500 °C (final)
Flash point	235 °C (455°F) Cleveland Open Cup

Evaporation rate	No information identified.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	No information identified.
Vapor pressure	5.49×10^{-7} Pa at 20 °C
Vapor density	No information identified.
Relative density	0.82 g/mL @15 °C
Water solubility	<0.21 mg/L at 20 ± 0.5°C (<LOQ)
Solvent solubility	No information identified.
Partition coefficient (*n-octanol/water*)	Log Kow (Pow): 15.76 to 31.33 by calculation.
Auto-ignition temperature	305 ºC
Decomposition temperature	No information identified.
Viscosity	(kinematic) 19.5 mm²/s at 40 °C; 4.3 mm²/s at 100 °C
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Other information	None identified.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	None identified. The material is inert.
Chemical stability	Stable under normal handling and storage conditions.
Possibility of hazardous reactions	None identified. The material is inert.
Conditions to avoid	Keep away from heat, sparks, and open flame.
Incompatible materials	Strong oxidizers.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, as identified above in Section 5

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Route of entry	May be absorbed by inhalation, skin contact and ingestion.
Acute toxicity	This class of compounds is not acutely toxic by oral, dermal, or inhalation exposure.
Irritation/Corrosion	This class of compounds is not irritating to eyes.
Sensitization	This class of compounds is not associated with skin sensitization effects.
STOT-single exposure	Not determined. Predicted to be non-toxic based on equivalent products.

STOT-repeated exposure/Repeat-dose toxicity	Not determined. Predicted to be non-toxic based on equivalent products.
Reproductive toxicity	Not determined. Predicted to be non-toxic based on equivalent products.
Developmental toxicity	Not determined. Predicted to be non-toxic based on equivalent products.
Genotoxicity	This class of compounds is non-genotoxic.
Carcinogenicity	No studies identified. This mixture is not listed by NTP, IARC, ACGIH or OSHA as a carcinogen.
Aspiration hazard	Considered to be an aspiration hazard based on kinematic viscosity.
Human health data	No other information identified

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity	**Acute Fish Toxicity:** (1) - 96h-LL50 > 100mg/L nominal loading rate WAF (2) - 96h-LL50 > 100mg/L nominal loading rate WAF **Chronic Fish Toxicity:** 14d NOEL > 100mg/L nominal loading rate WAF. **Acute Daphnia Toxicity :** (1)- 48h-LL50 > 100mg/L nominal loading rate WAF (2)- 48h-LL50 > 100mg/L nominal loading rate WAF **Chronic Daphnia Toxicity:** 21d No Observed Effect Loading rate (NOEL) NOEL for effects on reproduction: 100mg/L WAF NOEL for effects on body length: 100mg/L WAF NOEL for mortality of parent animals: 100mg/L WAF **Algal Toxicity:** 72h EbC50 value (biomass): > 100 mg/L loading rate WAF 72h ErC50 value (growth rate): > 100 mg/L loading rate WAF 72h EyC50 value (yield): > 100 mg/L loading rate WAF NOEC: 100 mg/L loading rate WAF **Inhibition of Bacterial Respiration:** 3-Hour EC50 > 1000 mg/L. **3-hour;** NOEC: 1000 mg/L**.** **Acute toxicity to Earthworms:** 14d-LC0 1000mg/kg dry soil; 14d-LC50 > 1000mg/kg dry soil
Additional toxicity information	Daphnia Magna 48-Hour EL50 > 100 mg/L loading rate WAF. NOEC Loading rate = 100 mg/L loading rate WAF.
Persistence and Degradability	Expected to be ultimately biodegradable
Bioaccumulative potential	Not determined. Predicted to be non-toxic based on equivalent products.
Mobility in soil	Will be maintained within the soil compartment in estimation based on the physical chemical properties. The substance is not proposed to be mobile due to the solubility.

Results of PBT and vPvB assessment	Not determined. Predicted to be non-toxic based on equivalent products. The substance is not considered to be a PBT or vPvB substance
Other adverse effects	No data available.
Note	Releases to the environment should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods	Used product should be disposed of according to local, state, and federal regulations. Do not send down the drain or flush down the toilet. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g., appropriately permitted municipal or on-site wastewater treatment facility.

SECTION 14 - TRANSPORT INFORMATION

Transport	Based on the available data, this mixture is not regulated as a hazardous material/ dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.
UN number	None assigned.
UN proper shipping name	None assigned.
Transport hazard classes and packing group	None assigned.
Environmental hazards	Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant.
Special precautions for users	Avoid exposure and releases to the environment.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture	This SDS complies with the requirements under US, EU and GHS (EU CLP - Regulation EC No 1272/2008) guidelines.
Chemical safety assessment	Conducted.
OSHA Hazardous	This mixture is classified as an aspiration hazard.
WHMIS classification	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.
TSCA status	Approved.
Other inventories	REACH (EU) – on the inventory

SARA (311/312) Reportable GHS Hazard Classes	Aspiration Hazard
SARA section 313	Not listed.
California proposition 65	Not listed.

SECTION 16 - OTHER INFORMATION

NFPA Classification:	Health Hazard: 1; Fire Hazard: 1; Reactivity Hazard; 0
Full text of H phrases, P phrases and GHS classification	AH1- Aspiration Hazard - Category 1 H304 - May be fatal if swallowed and enters airways.
Sources of data	Information from published literature and internal company data.
Abbreviations	ACGIH - American Conference of Governmental Industrial Hygienists ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail AICS – Australian Inventory Chemical Substances AIHA - American Industrial Hygiene Association CAS# - Chemical Abstract Services Number DNEL - Derived No Effect Level DOT - Department of Transportation EINECS - European Inventory of New and Existing Chemical Substances ELINCS - European List of Notified Chemical Substances EU - European Union GHS - Globally Harmonized System of Classification and Labelling of Chemicals IARC - International Agency for Research on Cancer IDLH - Immediately Dangerous to Life or Health IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods LOEL - Lowest Observed Effect Level LOAEL - Lowest Observed Adverse Effect Level NIOSH - The National Institute for Occupational Safety and Health NOEL - No Observed Effect Level NOAEL - No Observed Adverse Effect Level NTP - National Toxicology Program OEL - Occupational Exposure Limit OSHA - Occupational Safety and Health Administration PBT - Persistent, Bioaccumulative and Toxic PNEC - Predicted No Effect Concentration SARA - Superfund Amendments and Reauthorization Act STEL - Short Term Exposure Limit TDG - Transport Dangerous Goods TSCA - Toxic Substances Control Act TWA - Time Weighted Average WHMIS - Workplace Hazardous Materials Information System
Revisions	Rev 1.2 Updated Sections 1, 2, 8, 9, 11, 12, 15
Disclaimer	The above information is based on data available to us and is believed to be correct. Since the information may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of its use and all persons receiving it must make their own determination of the effects, properties and protections which pertain to their particular conditions. No representation, warranty, or guarantee, express or implied (including a warranty of fitness or merchantability for a particular purpose), is made with respect to the materials, the accuracy of this information, the results to be obtained from the use thereof, or the hazards connected with the use of the material. The above information is offered in good faith and with the belief that it is accurate. As of the date of issuance, we are providing all information relevant to the foreseeable handling of the material. However, in the event of an adverse incident associated with this product, this Safety Data Sheet is not, and is not intended to be, a substitute for consultation with appropriately trained personnel.