
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1	Product identifier Product Name EC number Trade name Other names Chemical Family REACH Registration No.:	Oligomerisation products of alpha-alkenes C16-18, hydrogenated, hydroisomerised 832-827-5 SynNova™ 4 Base Oil 4 cSt Base Oil Branched paraffinic hydrocarbons 01-2120836642-54-0000
1.2	Relevant identified uses of the substance or mixture and uses advised against	Synthetic base oil for use in the formulation of lubricant products. Formulation: F-1 Distribution of substance [PC 24] F-2 Formulation and (re)packing of substances and mixtures [PC 24] Uses at industrial sites: [SU 10] IW-3 Uses in coatings [PC 24] [SU 10] IW-4 Use in metal working fluids / rolling oils [PC 24] [SU 10] IW-5 Use as release agents or binders [PC 24] [SU 10, 11] IW-6 Rubber production and processing [PC 24] [SU 10] IW-7 Use in polymer processing [PC 24] [SU 6b, 11, 12, 14, 15, 17] IW-8 Lubricants [PC 24] [SU 10] IW-10 Use as functional fluids [PC 26] [SU 10] IW-11 Use as a cleaning agent [PC 35] [SU 2b] IW-12 Use in oil field drilling and production operations [PC24] [SU 24] IW-13 Use in Laboratories [PC 21] [SU 8] IW-14 Use as an intermediate [PC 24] Uses by professional workers: [SU 10] PW-15 Use in coatings [PC 9a] [SU 15] PW-16 Use in metal working fluids / rolling oils [PC 25] [SU 12] PW-17 Use as release agents or binders [PC 24] [SU 1] PW-18 Use in agrochemicals [PC 0] [SU 11, 12, 17] PW-19 Uses in polymer processing [PC 24] [SU 6b, 11, 12, 14, 15, 17] PW-20 Lubricants [PC24] [SU 10] PW-22 Use as a cleaning agent [PC 35] [SU 2b] PW-23 Use in oil field drilling and production operations [PC 24] [SU 24] PW-24 Use in Laboratories [PC 21] Consumer uses: C-26 Uses in Coatings [PC 1, 4, 8, 9a, 9b, 9c, 15, 18, 23, 24, 31, 34] C-27 Lubricants [PC 1, 24, 31] C-29 Use as functional fluids [PC 16, 17] C-30 Other consumer uses [PC 28, 39] C-31 Use as a cleaning agent [PC 3, 4, 24, 35] C-32 Use in agrochemicals [PC 12, 27] C-33 Use as emollient in personal care products [PC 39]
	Identified uses (s)	

	Article service life:	SL-33 Rubber production and processing [AC 10] SL-34 Use in polymer processing [AC 01] SL-35 Lubricants [AC 1, 6, 7, 10, 13] SL-36 Uses in polymer processing [AC 01]
	Uses advised against	None, although recommended for the above use only.
1.3	Details of the supplier of the safety data sheet	
	Non-EU Manufacturer	Novvi LLC 1600 Harbor Bay Pkwy., Suite 250 Alameda, CA 94502 Tel: +1 (281) 972-0724 E-mail: sds@novvi.com
	Only Representative	CS Regulatory (Ireland) Ltd Alexandra House The Sweepstakes D04 C7H2 Ballsbridge Dublin Ireland Tel/Fax: +44 1332 380692
1.4	Emergency telephone number (Chemtrec):	1-(703) 527-3887 (Outside the US) Collect calls accepted 24 hour availability; English spoken.

SECTION 2: Hazards identification

This product is provisionally classified as hazardous according to Regulation (EC) No 1272/2008 and its amendments

2.1	Classification of the substance or mixture	
2.1.1	Classification according to Regulation (EC) No 1272/2008 (including amendments):	Aspiration Hazard, Category 1, H304
2.2	Label elements	
2.2.1	Labelling according to Regulation (EC) No 1272/2008 [CLP]:	

Hazard pictogram(s)
GHS08: health hazard



Signal word(s)	Danger
Hazard statement(s)	H304 - May be fatal if swallowed and enters airways.



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Precautionary statement(s)

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.

2.3 Other hazards

None known.

2.4 Additional information

This substance does not meet the criteria of PBT/vPvB or identified as having endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	% Weight	CAS No	REACH Registration No.	Hazard Statements(s)
Oligomerisation products of alpha-alkenes C16-18, hydrogenated, hydroisomerised	100	2241366-04-9	01-2120836642-54-0000	Aspiration Hazard, Category 1, H304

3.2 Mixtures

Not applicable.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation

IF INHALED: 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.

Skin Contact

IF ON SKIN: Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.

Eye Contact

IF IN EYES: 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.

Ingestion

IF SWALLOWED: 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. Avoid further exposures.

- | | | |
|------------|---|---|
| 4.2 | 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. |
| 4.3 | Indication of any immediate medical attention and special treatment needed | 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

- | | | |
|------------|--|---|
| 5.1 | Extinguishing media | |
| | Suitable Extinguishing Media | Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials. |
| | Unsuitable Extinguishing Media | Water jet. |
| 5.2 | Special hazards arising from the substance or mixture | Do not breathe fumes. The product may produce carbon dioxide, carbon monoxide and such harmful gases by decomposition in combustion or by high temperature. |
| 5.3 | Advice for firefighters | Wear full protective clothing and a self-contained breathing apparatus with a full face piece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use. |

SECTION 6: Accidental release measures

- | | | |
|------------|--|---|
| 6.1 | Personal precautions, protective equipment and emergency procedures | |
| | 6.1.1 For non-emergency personnel | Do not allow non-authorized personnel to access around the leakage area: mark the area using rope, etc. |
| | 6.1.2 For emergency personnel | If indoors, ventilate thoroughly until the treatment is completed. Work from the upwind position. Evacuate people from downwind. Prepare fire extinguisher in advance against fire. Beware of the slippery floor where the product is spilled. Wear protective equipment as specified in "Section 8. Exposure Controls/Personal Protection" (rubber gloves, protective glasses, protective clothing and such) when engaged in treatment of the leakage. |
| 6.2 | Environmental precautions | Do not empty into drains. Avoid release to the environment. |
| 6.3 | Methods and material for containment and cleaning up | |
| | 6.3.1 For containment | If possible, stop the leak. If large amount, stop out-flowing by surrounding with soil, sand or other non-flammable material. |



- 6.3.2 For cleaning up** For small spills (such as in a laboratory), soak up material with absorbent, e.g., damp paper towel, and wash spill area thoroughly with soap and water. For large spills in manufacturing, use an industrial vacuum cleaner equipped with a high efficiency particulate (HEPA) filter if available. Alternatively if in solid or dried form, do not raise dust. Surround spill or powder with absorbents and place a damp cloth or towel over the area to minimize powder from entering the air. Add excess liquid to allow for the material to enter solution. Capture remaining liquid onto spill absorbents. Place spill materials into a leak-proof container suitable for disposal. Decontaminate area a second time. Dispose of material in a manner that is compliant with local laws.
- 6.4 Reference to other sections** For personal protection, see Section 8.
For disposal of waste from clean up operations, see Section 13.

SECTION 7: Handling and storage

- 7.1 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 hands thoroughly after handling. Tightly seal the container after every use. 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.
- 7.2 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.
- 7.3 Specific end use(s)** Synthetic base oil for use in the formulation of lubricant products as identified in sub-section 1.2.

SECTION 8: Exposure controls/personal protection

- 8.1 Control parameters**
- 8.1.1 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.
- 8.1.2 Biological Limit Value** None Listed.
- 8.1.3 PNECs and DNELS:** Not derived. Product is non-hazardous with the exception of aspiration toxicity.
- 8.2 Exposure controls**

8.2.1 Appropriate 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 points. High-energy operations such as spraying should be done within an approved emission control or containment system.
8.2.2 Individual protection measures, such as personal protective equipment	
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 and use Safety goggles and face protection, EN166: 2002 as minimum standard. An emergency eye wash station should be available.
Skin and body protection	Wear impervious gloves if skin contact is possible, EN374 as minimum standard, to prevent skin 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 only respiratory protection that conforms to EN149 as minimum standard.
Hygiene measures	Wash hands in the event of contact with this substance, especially before eating, drinking or smoking
8.2.3 Environmental exposure controls	Follow best practice for site management and disposal of waste. Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
Physical state	Liquid
Colour	Colorless to pale-yellow
Odour	No data available
Odour threshold (ppm)	No data available
pH (Value)	No data available
Melting point / freezing point	- 42 °C
Boiling point or initial boiling point and boiling range	400 °C (initial) - 500 °C (final)
Flash point (°C)	235 °C Cleveland Open Cup
Evaporation rate	No data available

	Flammability	Not applicable.
	Lower and upper explosion limit	No data
	Vapour pressure	5.49 x 10 ⁻⁷ Pa at 20 °C
	Relative vapour density	No data
	Density and/or relative density	0.82 g/ml at 15 °C
	Solubility	<0.21 mg/L at 20 ± 0.5° C (<LOQ)
	Partition coefficient (n-octanol/water)	Log Kow (Pow): 15.76 to 31.33 by calculation
	Auto-ignition temperature	358 °C
	Decomposition temperature (°C)	No data
	Viscosity (mPa. s)	(kinematic) 19.5 mm ² /s at 40 °C; 4.3 mm ² /s at 100 °C
	Particle characteristics	No data
9.2	Other information	
9.2.1	Information with regard to physical hazard classes	
	Explosives	Not explosive
	Aerosols	Not applicable
	Oxidising gases	Not applicable
	Gases under pressure	Not applicable
	Flammable liquids	Not flammable
	Flammable solids	Not applicable
	Self-reactive substances and mixtures	Not self-reactive
	Pyrophoric liquids	Not classified
	Pyrophoric solids	Not applicable
	Self-heating substances and mixtures	Not self-heating
	Substances and mixtures, which emit flammable gases in contact with water	Not applicable
	Oxidising liquids	Not oxidizing
	Oxidizing solids	Not applicable



	Organic peroxides	Not applicable
	Corrosive to metals	Not corrosive
	Desensitised explosives	Not applicable
9.2.2	Other safety characteristics	No other information.

SECTION 10: Stability and reactivity

10.1	Reactivity	None identified. The material is inert.
10.2	Chemical stability	Stable under normal handling conditions.
10.3	Possibility of hazardous reactions	None identified. The material is inert.
10.4	Conditions to avoid	None identified. The material is inert.
10.5	Incompatible materials	None identified. The material is inert.
10.6	Hazardous decomposition products	Carbon monoxide, carbon dioxide, as identified above in Section 5

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	This class of compounds is not acutely toxic by oral, dermal, or inhalation exposure.
Skin corrosion/irritation	This class of compounds is not corrosive or irritating to skin.
Serious eye damage/irritation	This class of compounds is not corrosive or irritating to eyes.
Respiratory or skin sensitisation	This class of compounds is not associated with respiratory or skin sensitization effects.
STOT-single exposure	Not yet determined.
STOT-repeated exposure/Repeat-dose toxicity	28-day NOAEL > 1000 mg/kg/day. Not harmful
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.
Germ cell mutagenicity	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	If this substance is accidentally ingested, it may cause serious aspiration toxicity and lung damage.
Information on likely routes of exposure	Oral, dermal, inhalation, eye.
Delayed and immediate effects as well as chronic effects from short and long-term exposure	None identified. With the exception of the aspiration hazard, the substance is considered to be non-toxic.

Symptoms related to the physical, chemical and toxicological characteristics	None identified. With the exception of the aspiration hazard, the substance is considered to be non-toxic.
Interactive effects	None identified. With the exception of the aspiration hazard, the substance is considered to be non-toxic.
11.2 Information on other hazards	
11.2.1 Endocrine disrupting properties	Substance has not been identified as having endocrine disrupting properties based on the available information.
11.2.2 Other information	No other information available.

SECTION 12: Ecological information

12.1 Toxicity	<p>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.</p> <p>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</p> <p>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</p> <p>Inhibition of Bacterial Respiration: 3-Hour EC50 > 1000 mg/L. 3-hour; NOEC: 1000 mg/L.</p> <p>Acute toxicity to Earthworms: 14d-LC0 1000mg/kg dry soil; 14d-LC50 > 1000mg/kg dry soil Daphnia Magna 48-Hour EL50 > 100 mg/L loading rate WAF. NOEC Loading rate = 100 mg/L loading rate WAF.</p>
12.2 Persistence and degradability	Expected to be ultimately biodegradable
12.3 Bioaccumulative potential	Not determined. Predicted to be non-toxic based on equivalent products.
12.4 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.
12.5 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
12.6 Endocrine disrupting properties	Substance has not been identified as having endocrine disrupting properties based on the available information.
12.7 Other adverse effects	No data available.



SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Residual wastes

Used product should be disposed of according to local, regional, national, and international 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 local, regional, national, and international 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.

13.1.2 Contaminated containers and packaging

Remove contents completely before the disposal of empty containers.

Dispose of the containers and such according to the national and local relevant acts and regulations.

13.2 Other information

None

SECTION 14: Transport information

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.

14.1 UN number or ID number

None assigned.

14.2 UN proper shipping name

None assigned.

14.3 Transport hazard class(es)

None assigned.

14.4 Packing group

None assigned.

14.5 Environmental hazards

None

14.6 Special precautions for user

Confirm that there is no damage, corrosion of the container or leakage before transportation.

Load the product by enforcing preventive measures against load collapse, so as not to cause inversion, fall or damage.

Cover the cargo with a cover sheet or such when transporting to prevent from being exposed to water and direct sunlight.

14.7 Maritime transport in bulk according to IMO Instruments

Not applicable.

14.8 Hazchem or Emergency Action Code

None assigned.

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No's 1907/2006, 1272/2008 and Amendments.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

OSHA Hazardous:

Not hazardous by comparison to similar chemicals within this class.

WHMIS classification

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations



TSCA status	Approved.
EU REACH Status	On the inventory
EU Authorisation Status	Not applicable.
EU Restriction Status	Not applicable
Other identifiers	None
Other inventories	None
Water Classification Hazard Germany	1 Slightly water contaminating
SARA section 313	Not listed.
California proposition 65	Not listed.
Montreal Protocol (Ozone depleting substances):	This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.
The Stockholm Convention (Persistent Organic Pollutants):	None of the chemicals in this product are listed.
The Rotterdam Convention (Prior Informed Consent):	None of the chemicals in this product are listed.
Basel Convention (Hazardous Waste):	None of the chemicals in this product are listed.
HMIS Classification:	Health Hazard: 1; Fire Hazard: 1; Reactivity Hazard; 0

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance. Please refer to Appendix 1 below

SECTION 16: Other information

Date of preparation of SDS: 02 February 2022

References:

In-house data

Study data

ECHA List of Registered Phase-in Substances in accordance with Regulation (EC) No. 1907/2006 of The European Parliament and of The Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Annex VI of Regulation 1272/2008 on Harmonised Classification and Labelling for Certain Hazardous Substances.

EU Indicative Occupational Exposure Limit Values (IOELVs): Directives 2000/39/EC, 2006/15/EC and 2009/161/EU.

ABBREVIATIONS

ACGIH - American Conference of Governmental Industrial Hygienists ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail

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



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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

Methods of evaluation:

The classification of the substance is based on the available data for the product or equivalent products in accordance with the criteria specified in Regulation (EC) No 1272/2008.

Revisions Rev. 1.5. Corrected auto-ignition temperature.

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. Caution should be used in the handling and use of the material because it is a pharmaceutical product. 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.



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APPENDIX 1 – EXPOSURE SCENARIOS



Section 1. Exposure Scenarios	
Titles:	
<u>Formulation:</u> F-1 Distribution of substance F-2 Formulation and (re)packing of substances and mixtures	
<u>Uses at industrial sites:</u> IW-3 Uses in coatings IW-4 Use in metal working fluids / rolling oils IW-5 Use as release agents or binders IW-6 Rubber production and processing IW-7 Use in polymer processing IW-8 Lubricants IW-10 Use as functional fluids IW-11 Use as a cleaning agent IW-12 Use in oil field drilling and production operations IW-13 Use in Laboratories IW-14 Use as an intermediate	
<u>Uses by professional workers:</u> PW-15 Use in coatings PW-16 Use in metal working fluids / rolling oils PW-17 Use as release agents or binders PW-18 Use in agrochemicals PW-19 Uses in polymer processing PW-20 Lubricants PW-22 Use as a cleaning agent PW-23 Use in oil field drilling and production operations PW-24 Use in Laboratories	
<u>Consumer uses:</u> C-26 Uses in Coatings C-27 Lubricants C-29 Use as functional fluids C-30 Other consumer uses C-31 Use as a cleaning agent C-32 Use in agrochemicals C-33 Use as emollient in personal care products	
<u>Article service life:</u> SL-33 Rubber production and processing SL-34 Use in polymer processing SL-35 Lubricants SL-36 Uses in polymer processing	
Use Descriptors:	
Sector(s) of Use	SU 1, SU 2b, SU 6b, SU 8, SU 10, SU 11, SU 12, SU 14, SU 15, SU 17, SU 24, SU 25
Process Categories	PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 6, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 14, PROC 15, PROC 17, PROC 18, PROC 19, PROC 20, PROC 21
Environmental Release Categories	ERC2, ERC3, ERC4, ERC4, ERC5, ERC6a, ERC6d, ERC7, ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b
Product Categories	PC 1, PC 3, PC 4, PC 8, PC 9a, PC 9b, PC 9c, PC 12, PC 15, PC 16, PC 17, PC 18, PC 23, PC 24, PC 27, PC 28, PC 31, PC 34, PC 35, PC 39
Article Categories	AC 01, AC 1, AC 6, AC 7, AC 10, AC 13

Processes, tasks, activities covered
Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).
Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distribution and associated laboratory activities.
Use as an intermediate (not related to Strictly Controlled Conditions). Includes incidental exposures during recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, palletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.
Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
Covers the use in formulated MWFs (MWFs)/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing) and handling of waste.
Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.
Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.
Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.
Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).
Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.



Processes, tasks, activities covered
Covers the use in formulated MWFs (metal working fluids)/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils
Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.
Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.
Use as functional fluids e.g. cable oils, transfer oils, insulators, refrigerants, hydraulic fluids in closed professional equipment including incidental exposures during maintenance and related material transfers.
Use of small quantities within laboratory settings, including material transfers and equipment cleaning.
Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.
Covers the use of the substance for the treatment of water in open and closed systems.
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Covers the consumer use of agrochemicals in liquid and solid forms.
Covers consumer uses in liquid fuels.
Consumer uses e.g. as a carrier or emollient in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.
Section 2. Operational conditions and risk management measures
Section 2.1. Control of worker exposure
Product Characteristic
Liquid
Duration, frequency and amount
Covers daily exposures up to 8 hours
Covers percentage substance in the product up to 100 %
Other given operational conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented

Contributing Scenarios/Specific Risk Management Measures and Operating Conditions

'Aspiration' means the entry of a liquid substance directly into the trachea and lower respiratory tract. Aspiration of hydrocarbon substances can result in severe acute effects such as chemical pneumonitis, varying degrees of pulmonary injury or death. This property relates to the potential for low viscosity material to spread quickly into the deep lung and cause severe pulmonary tissue damage. Classification of a hydrocarbon substance for aspiration hazard is made on the basis of reliable human evidence or on the basis of physical properties.

The H304 Hazard Statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived.

This general qualitative CSA approach aims to reduce/avoid contact or incidents with the substance. However, implementation of risk management measures (RMMs) and operational conditions (OCs) need to be proportional to the degree of concern for the health hazard presented by the substance. Exposures should be controlled to at least the levels that represent an acceptable level of risk such that the implementation of the chosen RMMs will ensure that the likelihood of an event occurring due to the substance hazard is negligible, and the risk is considered to be controlled to a level of no concern.

There are no routine anticipated exposures by ingestion related to any supported uses of the substance. The risk arising from aspiration hazard is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific risk. For any substance, classified as Aspiration Toxicity Category 1, these measures should be communicated via the safety data sheet by use of the following phrase:

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

When the substance is present in formulated products at a relatively low concentration therefore it is not expected to pose an aspiration hazard to professional users and consumers. According to the CLP Regulation, a substance classified as posing an aspiration hazard needs to be present in a mixture at a concentration $\geq 10\%$ to trigger classification of the mixture.

Section 2.2. Control of environmental exposure

Product characteristics	Not applicable; substance is not classified as hazardous for the environment.
Duration, frequency and amount	
Environmental factors not influenced by risk management	
Other given operational conditions affecting environmental exposure	
Technical conditions and measures at process level (source) to prevent release	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Organisation measures to prevent/limit release from site	
Conditions and measures related to municipal sewage treatment plant	
Conditions and measures related to external treatment of waste for disposal	
Conditions and measures related to external recovery of waste	



Section 3. Exposure Estimation
3.1. Health
<p>Exposure estimation is not determined. The substance is predicted to be non-toxic based on equivalent products. Substance is only classified for physical hazard – quantitative risk characterisation is not required. Aspiration hazard is considered to be addressed appropriately via hazard communication.</p> <p>There are no routine anticipated exposures by ingestion related to any supported uses of the substance. The risk arising from aspiration hazard is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific risk.</p> <p>As such, in depth evaluation and assessment of the exposure scenarios resulting from this use category is not considered appropriate. Likely sources of exposure are likely to be via dermal exposure with some limited potential inhalation of oil mist. However, the substance is not anticipated to cause any effects.</p>
3.2. Environment
<p>Not applicable. Substance is not classified – exposure estimation is not required.</p>
Guidance to DU to evaluate whether he works inside the boundaries set by the ES
<p>Risk Management Measures are based on qualitative risk characterisation. The product is not classified as toxic to humans or the environment.</p> <p><u>Components of Qualitative Risk assessment:</u></p> <p>Worker</p> <ul style="list-style-type: none">• Do not ingest• Implementation of basic standards of occupational hygiene• Avoid splashes and spills• Avoidance of contact with contaminated tools and objects• Management/supervision to check that the RMMs in place are being used correctly and OCs followed• Training for staff on good Practice• Good standard of personal hygiene