Safety Data Sheet (EN)

according to Regulation (EC) No. 1907/2006 (REACH)
Revision 2014-06-03 (GB) Version 3.0

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

Product identifier

Name of product Vacuum oil **LABOVAC 12S**

Relevant identified uses of the substance or mixture and uses advised against
Recommended intended purpose(s)
See "Description of Identified uses".

Details of the supplier of the safety data sheet

Distributor

Gardner Denver Thomas GmbH
Am Vogelherd 20
98693 Ilmenau
Germany

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welch-ilmvac@gardnerdenver.com
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SECTION 2: Hazards identification

Classification of the substance or mixture

Label elements
Labelling according to 67/548/EEC or 1999/45/EC
Other hazards

Information pertaining to special dangers for human and environment
The product is not classified as hazardous/is not a hazardous preparation and therefore exempt from labelling.

SECTION 3: Composition/ information on ingredients

Additional advice
If oil mist occurs, see TWA recommendation for oil mist under section 8

SECTION 4: First aid measures

Description of first aid measures
General information
Spillages make surfaces slippery.

In case of inhalation
In case of symptoms arising from inhalation of product fumes, mists or vapour: Remove casualty to a quiet and well ventilated place if safe to do so.
Obtain medical assistance if breathing remains difficult.
If casualty is unconscious and not breathing: Ensure that there is no obstruction to breathing and give artificial respiration by trained personnel.
If necessary, give external cardiac massage and obtain medical advice.
If casualty is unconscious and breathing, place in the recovery position. Administer oxygen if necessary.
Inhalation is unlikely because of the low vapour pressure of the substance at ambient temperature.
Symptoms: irritation of the respiratory tract due to excess fume, mists or vapour exposure.

In case of skin contact
Remove contaminated clothing, contaminated footwear and dispose of safely.
Seek medical attention if skin irritation, swelling or redness develops and persists.
When using high-pressure equipment, injection of product can occur. If high-pressure injuries occur, immediately seek professional medical attention. Do not wait for symptoms to develop.

Do not put ice on the burn. Remove non-sticking garments carefully. DO NOT attempt to remove portions of clothing glued to burnt skin but cut round them.
For minor thermal burns, cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. Body hypothermia must be avoided.
Seek medical attention in all cases of serious burns.
Wash affected area with soap and water.
May cause burn in case of contact with product at high temperature.
Symptoms: dry skin, irritation in case of repeated or prolonged exposure.

In case of eye contact
If hot product is splashed into the eye, it should be cooled down immediately to dissipate heat, under cold running water for at least 5 minutes.
Immediately obtain specialist medical assessment and treatment for the casualty.
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.
Symptoms: slight irritation. May cause burn in case of contact with product at high temperature.

In case of ingestion
Do not give anything by mouth to an unconscious person.
If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs (aspiration). Once vomiting ceases, place the person in the recovery position with the legs slightly raised.
Always assume that aspiration has occurred. Seek professional medical attention or send the casualty to a hospital. Do not wait for symptoms to develop.
Symptoms: few or no symptoms expected. If any, nausea and diarrhoea might occur.
Do not induce vomiting.

Most important symptoms and effects, both acute and delayed
Physician's information / possible dangers
Individuals with pre-existing lung disorders may have increased susceptibility of the effects of exposure.
In case of swallowing or vomiting of product there is danger of penetration into the lungs.

Indication of any immediate medical attention and special treatment needed
Treatment (Advice to doctor)
Treatment should be in general symptomatic to relieve any effects.

SECTION 5: Firefighting measures

Extinguishing media
Suitable extinguishing media
Foam (trained personnel only).
Water fog (trained personnel only).
Dry chemical powder.
Carbon dioxide
Other inert gases (subject to regulations).
Sand or earth.

Extinguishing media which must not be used for safety reasons
Do not use direct water jets on the burning product; they could cause splattering and spread the fire.
Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Special hazards arising from the substance or mixture
Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide + unidentified organic and inorganic compounds.

Advice for firefighters
Special protective equipment for fire-fighters
In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing 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

Work helmet. Antistatic non-skid safety shoes or boots.
Small spillages: Normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material.
Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Gloves made of PVA are not water-resistant, and are not suitable for emergency use.
Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated.
If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
Respiratory protection will be necessary only in special cases (e.g. formation of mists).
Respiratory protection:
A half or full-face respirator with combined dust/organic vapour filter(s), or a Self-Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure.

Environmental precautions

Prevent product from entering sewers, rivers or other bodies of water.
If necessary dike the product with dry earth, sand or similar non-combustible materials.

Methods and material for containment and cleaning up

Stop or contain leak at the source if this possible without risk. Avoid direct contact with released material. Stay upwind.
Large spillages may be cautiously covered with foam, if available, to limit fire risk. Do not use direct jets.
Collect free product with suitable means. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.
In case of soil contamination, remove contaminated soil and treat in accordance with local regulations.
When inside buildings or confined spaces, ensure adequate ventilation.
Keep non-involved personnel away from the area of spillage. Alert emergency personnel.
Except in case of small spillages: The feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency.
Absorb spilled product with suitable non-combustible materials.
In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents.
If possible, large spillages in open waters should be contained with floating barriers or other mechanical means.
If this not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means.
The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
Collect recovered product and other materials in suitable tanks or containers for recovery or safe disposal.
Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares).
If required, notify relevant authorities according to all applicable regulations.

Additional Information

Recommended measures are based on the most likely spillage scenarios for this material.
Local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions.
For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.

Reference to other sections

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Ensure that all relevant regulations regarding handling and storage facilities of flammable products are followed.
Avoid contact with skin. Avoid breathing fume/mist.
Avoid splash filling of bulk volumes when handling hot liquid product.
Prevent the risk of slipping.
Use and store only outdoors or in a well-ventilated area.
Avoid contact with the product.
Avoid release to the environment.
Take precautionary measures against static electricity.
Use adequate personal protective equipment as required.
For more information regarding protective equipment and operational conditions see Exposure scenarios. These risk management measures represent a worst case.
For a non-classified substance proportionate information may be found in the Safety Data Sheet.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation.
Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills.
Cleaning, inspection and maintenance of internal structure of storage tanks
must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.
Recommended materials for containers, or container linings use mild steel, stainless steel.
Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.
Keep only in original container.
Keep containers tightly closed and properly labelled.

Advice on storage compatibility

Store separately from oxidising agents.

Further information on storage conditions

Empty containers may contain combustible product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.

Storage group 10

Fire class B

Specific end use(s)

Recommendation(s) for intended use

Ensure that proper housekeeping measures are in place.
Do not eat, drink or smoke when using this product.
Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets.
Keep away from food and beverages.
Wash the hands thoroughly after handling.
Change contaminated clothes at the end of working shift.

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
	oil mist	8 hours	5		TWA, 5 h

Additional advice

For this material there are occupational exposure limits set by:
Competent Professional Bodies (i.e. American Conference of Industrial Hygienists, ACGIH).
These values are recommended but not legally binding by themselves, unless adopted in a national legislation or labor contracts.
DNEL=160 mg aerosol/m3/8h Long Term Exposure, Systemic, Inhalativ
DNEL=220 mg/kg/8h, Long Term Exposure, Systemic, Dermal
Thermal hazards: None in normal conditions.

Exposure controls

Respiratory protection

Approved respiratory protection equipment shall be used when handling product in confined spaces:
full-face mask with particulate filter(s) giving a sufficient protection factor for the dust level present.
If exposure levels cannot be determined or estimated with adequate confidence, or an oxygen deficiency is possible, only SCBA's should be used.

Hand protection

Heat resistant gloves with long cuffs, or gauntlets.
Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.

Eye protection

If splashing is likely, full head and face protection (protective shield and/or safety goggles) should be used.

Skin protection

For loading/unloading operations: wear safety helmet, if necessary integrated full face visor.
Wear protective clothing for operations with hot material:

heat resistant coveralls (with trousers legs over boots and sleeves over cuffs of gloves), heat resistant heavy duty antiskid boots (e. g. leather).
Coveralls should be changed at the end of the work shift and cleaned as necessary to avoid transfer of product to clothes or underwear.

Hygiene measures
Use of personal protective equipment must be consistent with good occupational hygiene practices.

Additional advice on system design
Do not enter empty storage tanks until measurements of available oxygen have been carried out.
Storage and handling temperatures should be kept as low as feasible to minimize fume production.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Form	Colour	Odour
liquid	wasserhell	mild

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
boiling range	218 - 800 °C				
pourpoint	ca. -9 °C			DIN/ISO 3016	
Flash point	ca. 255 °C			DIN ISO 2592	
Autoignition	325 - 355 °C				
Vapour pressure	< 0,1 hPa	20 °C		calculated	
Density	ca. 869 kg/m3	15 °C		DIN 51757	
Solubility in water					more or less insoluble
Viscosity kinematic	ca. 95 mm2/s	40 °C		DIN 51562	

Explosive properties
The product does not present an explosion hazard.

Other information
The values provided may fluctuate within customary limits.

SECTION 10: Stability and reactivity

Reactivity

Chemical stability

Possibility of hazardous reactions

Conditions to avoid
Excessive heating above the maximum recommended handling and storage temperature may cause degradation of the substance and evolution of irritant vapours and fumes.

Incompatible materials
Materials to avoid
Contact with strong oxidizers (peroxides, chromates, etc.) may cause a fire hazard.
A mixture with nitrates or other strong oxidisers (e.g. chlorates, perchlorates, liquid oxygen) may create an explosive mass.
Sensitivity to heat, friction or shock cannot be assessed in advance.

Hazardous decomposition products
Combustion (incomplete) will likely generate oxides of carbon, sulphur and nitrogen, as well as additional undetermined organic compounds of the same elements.
None under normal conditions at ambient temperatures.
Additional information
Decomposition starting at higher temperature (>350°C).
This substance is stable under all ordinary circumstances at ambient temperatures, and if released into the environment.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 5000 mg/kg	rat (male / female)	Equivalent to OECD 401	Based on key study test data.
LD50 acute dermal	> 2000 mg/kg	rabbit	Equivalent to OECD 402.	Based on key study test data.
LC50 acute inhalation	> 5000 mg/m3 (4 h)	rat (male / female)	Equivalent to OECD 403.	Based on key study test data.
Irritability skin	non-irritant	rabbit	Equivalent to OECD 404.	Basierend auf Daten aus Hauptuntersuchungen
Irritability eye	non-irritant	rabbit eye	Equivalent to OECD 405	Based on key study test data.
Skin sensitization	non-sensitizing	Guinea pig	OECD 406	Based on key study test data.

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Subacute Toxicity	NOAEL 1000 mg/kg Sub-acute dermal toxicity	Rabbit (male/female).	Equivalent to OECD 410.	
Subchronic Toxicity	NOAEL >= 2000 mg/kg Sub-chronic toxicity study (dermal).	rat (male / female)	Equivalent to OECD 411	
Chronic Toxicity	NOAEL > 1200 mg/kg Chronic oral exposure	F-344 Rat strain	OECD 411	
Mutagenicity	Ames test: No mutagenic effect		Based on OECD 471	Negative.
Reproduction-Toxicity	Chromosome aberration assay Based on key study test data.		Equivalent to OECD 474.	Negative.

	Value	Species	Method	Validation
Carcinogenicity	Carcinogenicity study		OECD 453	No carcinogenic effect due to oral exposure, when inhaled or on contact with skin.

SECTION 12: Ecological information

Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 > 1000 mg/l (96 h)	Leuciscus idus	OECD 203	Based on key studies.
Daphnia	LL50 > 100 mg/l (48 h)	Daphnia magna	OECD 202	Based on key study test data.
Algae	NOEL >= 100 mg/l (72 h)	Pseudokirchnerella subcapitata	OECD 201	Based on key study test data.

Persistence and degradability

Physico-chemical degradability			Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.
Biological degradability	31,3 % (28 d)	OECD 301 F	inherently biodegradable

Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

Bioaccumulative potential

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

Respiration inhibition of activated sluge

	Value	Method	Remark
EC 50		Aquatic toxicity	LL50 (40h) > 1000 mg/l QSAR Software Model

General regulation
Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

Waste treatment methods

Waste code No.	Name of waste
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Recommendations for the product
Surplus (unused) or off-spec substance can be recovered or re-conditioned (according to specific characteristics and composition), or can be disposed of as waste.
Disposal can be carried out directly, or by delivery to qualified waste handlers. Contain and dispose of waste according to local regulations.

This substance can be burned or incinerated, subject to national/local authorizations, relevant contamination limits, safety regulations and air quality legislation.
These codes can be given only as a suggestion, according to the original composition of the product, and its intended (foreseeable) use(s).
The final user has the responsibility for the attribution of the most suitable code, according to the actual use(s) of the material, contaminations or alterations.
Other national or local legislation may require additional identification or other measures for this product, may also limit or exclude the use of generic (n.o.s.) codes.

Recommendations for packaging

Disposal of emptied containers: Contact the original supplier or deliver to a qualified disposal organization.
Do not cut, weld, bore, burn or incinerate emptied containers, unless they have been cleaned and declared safe.
Empty containers may contain combustible product residues.
Do not re-use emptied, unclean containers for other purposes.

General information

In the absence of relevant alterations to the material or presence of contaminants, disposal of this substance as surplus (unused) or off-spec material, or waste resulting from the foreseeable use(s), does not present a specific hazard, or require special handling measures other than those indicated in Sect 7.

SECTION 14: Transport information

Land and inland navigation transport ADR/RID

No dangerous goods as defined by these transport regulations.

Marine transport IMDG

No dangerous goods as defined by these transport regulations.

Air transport ICAO/IATA-DGR

No dangerous goods as defined by these transport regulations.

Transport/further information

The flashpoint measured in accordance with DIN ISO 2592 (COC) lies above 100°C. Products are transported at outdoor temperature.
In order to pump the product, the transport temperature must be higher than the pour point.

Special precautions for user

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

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

National regulations

Water hazard class	1	KBwS-classification Based on "Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)" from 27 Juli 2005

Technical instruction air remarks
5.2.5. Organic substances

Decree for case of interference/ remarks: Accident regulation, appendix I: not specified.

Chemical Safety Assessment

SECTION 16: Other information

Further information

Above information corresponds to our present knowledge and experience. It is not a guarantee that no errors or incomplete data may be contained.

Sources of key data used

DGMK report 400-1 , 400-2 , 400-7 Concawe-Report " Health aspects of lubricants " 1/1983

Description of Identified uses (Use Descriptor System)

Product Group: Highly Refined Base Oil (not classified)

Identified Use	Sector	SU	PROC	ERC	PC
Lubricants (High environmental release)	Consumer	21	NA	8a, 8d	1, 6, 24, 31
Lubricants (Low environmental release)	Consumer	21	NA	9a, 9b	1, 6, 24, 31
Other Consumer Uses	Consumer	21	NA	8a, 8d	28, 39
Use as a fuel	Consumer	21	NA	9a, 9b	13
Use in Agrochemicals	Consumer	21	NA	8a, 8d	12, 22, 27
Use in Cleaning Agents	Consumer	21	NA	8a, 8d	3, 4, 9a, 24, 35, 38
Uses in Coatings	Consumer	21	NA	8a, 8d	1, 4, 5, 9a, 9b, 9c, 10, 15, 18, 23, 24, 31, 34
Distribution of substance	Industrial	3	1, 2, 3, 4, 8a, 8b, 9, 15	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7	
Formulation & (re)packing of substances and mixtures	Industrial	3, 10	1, 2, 3, 4, 5, 8a, 8b, 9, 14,15	2	
Functional Fluids	Industrial	3	1, 2, 3, 4, 8a, 8b, 9	7	
Lubricants	Industrial	3	1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13, 17, 18	4, 7	
Manufacture of substance	Industrial	3, 8, 9	1, 2, 3, 4, 8a, 8b, 15	1, 4	
Metal working fluids / rolling oils	Industrial	3	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17	4	
Polymer production	Industrial	10	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 13, 14, 21	4	
Rubber production and processing	Industrial	3, 10, 11	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21	1, 4, 6d	
Use as binders and release agents	Industrial	3	1, 2, 3, 4, 6, 7, 8b,10, 13, 14	4	
Use in Cleaning Agents	Industrial	3	1, 2, 3, 4, 7, 8a, 8b, 10, 13	4	
Use in laboratories	Industrial	3	10, 15	2, 4	
Uses in Coatings	Industrial	3	1, 2, 3, 4, 5, 7, 8a,8b, 10, 13, 15	4	
Water treatment chemicals	Industrial	10	1, 2, 3, 4, 8a, 8b, 13	3, 4	
Explosives manufacture & use	Professional	22	1, 3, 5, 8a, 8b	8e	
Functional Fluids	Professional	22	1, 2, 3, 8a, 9, 20	9a, 9b	
Lubricants (High environmental release)	Professional	22	1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20	8a, 8d	
Lubricants (Low environmental release)	Professional	22	1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20	9a, 9b	
Metal working fluids / rolling oils	Professional	22	1, 2, 3, 5, 8a, 8b, 9, 10, 11, 13, 17	8a, 8d	
Use as binders and release agents	Professional	22	1, 2, 3, 4, 6, 8a, 8b, 10, 11, 14	8a, 8d	
Use in Agrochemicals	Professional	22	1, 2, 4, 8a, 8b, 11, 13	8a, 8d	
Use in Cleaning Agents	Professional	22	1, 2, 3, 4, 8a, 8b, 10, 11, 13	8a, 8d	
Use in laboratories	Professional	22	10, 15	8a	

Identified Use	Sector	SU	PROC	ERC	PC
Uses in Coatings	Professional	22	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	8a, 8d	
Water treatment chemicals	Professional	22	1, 2, 3, 4, 8a, 8b, 13	8f	