LEICHTLAUF HIGH TECH 5W-40, 5L

Liqui Moly GmbH

Chemwatch Hazard Alert Code: **2**

Chemwatch: **48-0464**
Version No: **2.1.1.1**
Safety Data Sheet

Issue Date: **10/03/2015**
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Initial Date: **Not Available**
S.GHS.CAN.EN

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

Product Identifier

Product name	LEICHTLAUF HIGH TECH 5W-40, 5L
Synonyms	Item No. 2332
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions. Motor Oil.

Details of the manufacturer/importer

Registered company name	Liqui Moly GmbH
Address	Jerg-Wieland-Strasse 4 Ulm D-89081 Germany
Telephone	+49 731 1420 0
Fax	+49 731 1420 82
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	1		
Toxicity	2		
Body Contact	2		
Reactivity	1		
Chronic	2		

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

CANADIAN WHMIS SYMBOLS

GHS Classification	Aspiration Hazard Category 1

Label elements

GHS label elements	

SIGNAL WORD	DANGER

Hazard statement(s)

H304	May be fatal if swallowed and enters airways

Precautionary statement(s) Prevention

Not Applicable

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Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider
P331	Do NOT induce vomiting.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64742-54-7.	30-60	paraffinic distillate, heavy, hydrotreated (severe)
90480-91-4	1-5	calcium alkyl phenate sulfide
147880-09-9	1-<5	polyolefin polyamine succinimide
68784-31-6	1-<2.5	zinc bis(sec-butyl and 1,3-dimethylbutyl) dithiophosphate

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor.
Ingestion	▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice. ▸ Avoid giving milk or oils. ▸ Avoid giving alcohol. ▸ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

- Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

NOTE: Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	▸ Foam. ▸ Dry chemical powder. ▸ BCF (where regulations permit). ▸ Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course.

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	▸ Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. ▸ On combustion, may emit toxic fumes of carbon monoxide (CO).

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	Slippery when spilt. ▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	Slippery when spilt. Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard.

	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▸ Containers, even those that have been emptied, may contain explosive vapours. ▸ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. ▸ Electrostatic discharge may be generated during pumping - this may result in fire. ▸ Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights or ignition sources. ▸ Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	**CARE**: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire. ▸ Avoid reaction with oxidising agents

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m3 / --- ppm	10 mg/m3 / --- ppm	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Designated Chemical Substances	paraffinic distillate, heavy, hydrotreated (severe)	Mineral oils, untreated and mildly treated	Not Available	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits (English)	paraffinic distillate, heavy, hydrotreated (severe)	Oil Mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Prince Edward Island Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Mineral oil, excluding metal working fluids Pure, highly and severely refined / Mineral oil, excluding metal working fluids Poorly and mildly refined	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr

Continued...

Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	paraffinic distillate, heavy, hydrotreated (severe)	Mineral oil (mist) / Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - British Columbia Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist - mineral, mildly refined / Oil mist - mineral, severely refined	0.2 mg/m3 mg/m3 / 1 mg/m3 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
paraffinic distillate, heavy, hydrotreated (severe)	Hydrotreated (mild & severe) heavy paraffinic distillates	45 mg/m3	500 mg/m3	3000 mg/m3

Ingredient	Original IDLH	Revised IDLH
paraffinic distillate, heavy, hydrotreated (severe)	Not Available	Not Available
calcium alkyl phenate sulfide	Not Available	Not Available
polyolefin polyamine succinimide	Not Available	Not Available
zinc bis(sec-butyl and 1,3-dimethylbutyl) dithiophosphate	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and.has to be observed when making a final choice. Suitability and durability of glove type is dependent on usage.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ P.V.C. apron. ▸ Barrier cream.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
LEICHTLAUF HIGH TECH 5W-40, 5L Not Available

Material	CPI

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB =

Continued...

Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brown colour liquid with characteristic odour; not miscible with water.

Physical state	Liquid	**Relative density (Water = 1)**	0.855
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	-33	**Viscosity (cSt)**	90
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	236	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation hazard is increased at higher temperatures.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.
Skin Contact	Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	There is some evidence to suggest that this material can cause eye irritation and damage in some persons. Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.
Chronic	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Oil may contact the skin or be inhaled.

	TOXICITY	IRRITATION
LEICHTLAUF HIGH TECH 5W-40, 5L	Not Available	Not Available

Continued...

paraffinic distillate, heavy, hydrotreated (severe)	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Not Available
	Inhalation (rat) LC50: >3.9 mg/l4 h[1]	
	Inhalation (rat) LC50: >4.7 mg/l4 h[1]	
	Inhalation (rat) LC50: >5 mg/l4 h[1]	
	Inhalation (rat) LC50: >5.2 mg/l4 h[1]	
	Inhalation (rat) LC50: >5.3 mg/l4 h[1]	
	Inhalation (rat) LC50: 10.5 mg/l4 h[1]	
	Inhalation (rat) LC50: 5.7 mg/l4 h[1]	
	Inhalation (rat) LC50: 9.6 mg/l4 h[1]	
	Oral (rat) LD50: >2000 mg/kg[1]	
calcium alkyl phenate sulfide	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
polyolefin polyamine succinimide	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
zinc bis(sec-butyl and 1,3-dimethylbutyl) dithiophosphate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5000 mg/kg[1]	Not Available
	Oral (rat) LD50: 2750 mg/kg[1]	
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's msds Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

PARAFFINIC DISTILLATE, HEAVY, HYDROTREATED (SEVERE)	The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since: ▸ The adverse effects of these materials are associated with undesirable components, and ▸ The levels of the undesirable components are inversely related to the degree of processing; ▸ Distillate base oils receiving the same degree or extent of processing will have similar toxicities; ▸ The potential toxicity of *residual base oils* is independent of the degree of processing the oil receives. ▸ The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing. Unrefined & mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential carcinogenic and mutagenic activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components.
ZINC BIS(SEC-BUTYL AND 1,3-DIMETHYLBUTYL) DITHIOPHOSPHATE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Dithiophosphate alkyl esters is corrosive and toxic to the tissues on skin or oral exposure depending on its concentration. Symptoms included diarrhoea, skin and gastrointestinal irritation, lethargy, reduced food intake, staining about the nose and eye; occasionally, there was drooping of the eyelid, hair standing up, inco-ordination and salivation.
CALCIUM ALKYL PHENATE SULFIDE, POLYOLEFIN POLYAMINE SUCCINIMIDE	No significant acute toxicological data identified in literature search.

Acute Toxicity	⊘	**Carcinogenicity**	⊘
Skin Irritation/Corrosion	⊘	**Reproductivity**	⊘
Serious Eye Damage/Irritation	⊘	**STOT - Single Exposure**	⊘
Respiratory or Skin sensitisation	⊘	**STOT - Repeated Exposure**	⊘
Mutagenicity	⊘	**Aspiration Hazard**	✔

Legend: ✔ *– Data required to make classification available*
✘ *– Data available but does not fill the criteria for classification*
⊘ *– Data Not Available to make classification*

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air

Continued...

	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: ▸ Reduction ▸ Reuse ▸ Recycling ▸ Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO

Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

SECTION 15 REGULATORY INFORMATION

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

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

paraffinic distillate, heavy, hydrotreated (severe) (64742-54-7.) is found on the following regulatory lists	"Canada Domestic Substances List (DSL)","Canada - British Columbia Occupational Exposure Limits","Canada - Prince Edward Island Occupational Exposure Limits","Canada - Saskatchewan Occupational Health and Safety Regulations - Designated Chemical Substances","Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Canada - Northwest Territories Occupational Exposure Limits (English)","Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances","Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits","Canada - Nova Scotia Occupational Exposure Limits","Canada Categorization decisions for all DSL substances","Canada - Quebec Permissible Exposure Values for Airborne Contaminants (French)","Canada - Alberta Occupational Exposure Limits"
calcium alkyl phenate sulfide(90480-91-4) is found on the following regulatory lists	"Not Applicable"
polyolefin polyamine succinimide(147880-09-9) is found on the following regulatory lists	"Not Applicable"
zinc bis(sec-butyl and 1,3-dimethylbutyl) dithiophosphate(68784-31-6) is found on the following regulatory lists	"Canada Domestic Substances List (DSL)","Canada Categorization decisions for all DSL substances"

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

end of SDS