Roto Inject Fluid Ndurance

Atlas Copco Airpower NV

Chemwatch: **5247-56**
Version No: **16.1.1.1**
Safety Data Sheet (Conforms to Regulation (EU) No 2015/830)

Issue Date: **04/10/2019**
Print Date: **16/10/2020**
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SECTION 1 Identification of the substance / mixture and of the company / undertaking

1.1. Product Identifier

Product name	Roto Inject Fluid Ndurance
Synonyms	RIF Ndurance
Other means of identification	0017530051, 1630091800, 1630091900, 1630114600, 1630144200, LL-90-3-165

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

Relevant identified uses	Compressor oil
Uses advised against	Not Applicable

1.3. Details of the supplier of the safety data sheet

Registered company name	**Atlas Copco Airpower NV**
Address	Boomsesteenweg 957 Wilrijk B2610 Belgium
Telephone	+32 3 870 2111
Fax	+32 3 870 2903
Website	www.atlascopco.com
Email	info.lubricants.cts@atlascopco.com

1.4. Emergency telephone number

Association / Organisation	**CHEMWATCH EMERGENCY RESPONSE**
Emergency telephone numbers	+32 2 700 63 06
Other emergency telephone numbers	+32 800 81 450

Once connected and if the message is not in your prefered language then please dial 01

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Not Applicable

2.2. Label elements

Hazard pictogram(s)	Not Applicable

Signal word	**Not Applicable**

Hazard statement(s)

Not Applicable

Supplementary statement(s)

EUH208	Contains alkaryl carboxylic acid derivative. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

2.3. Other hazards

4-nonylphenoxyactic acid	Listed in the European Chemicals Agency (ECHA) Candidate List of Substances of Very High Concern for Authorisation

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	**%[weight]**	**Name**	**Classification according to regulation (EC) No 1272/2008 [CLP] and amendments**
1.Not Available 2.Not Available 3.Not Available 4.Not Available	0-90	interchangeable low viscosity base oil (<20.5 cSt @40C)	Aspiration Hazard Category 1; H304 [1]
Not Available		(DMSO <3% w/w - IP346)	Not Applicable
Not Available		* contains one or more of the following CAS-numbers (REACH registration numbers):	Not Applicable
Not Available		64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25),	Not Applicable
Not Available		64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48),	Not Applicable
Not Available		64742-65-0 (01-2119471299-27), 68037-01-4 (01-2119486452-34),	Not Applicable
Not Available		72623-86-0 (01-2119474878-16), 72623-87-1 (01-2119474889-13),	Not Applicable
Not Available		8042-47-5 (01-2119487078-27), 848301-69-9 (01-0000020163-82)	Not Applicable
1.68411-46-1 2.270-128-1|411-790-5 3.Not Available 4.01-2119491299-23-XXXX	1-5	octylated diphenylamines	Chronic Aquatic Hazard Category 3; H412 [1]
1.597-82-0 2.209-909-9 3.Not Available 4.Not Available	0.1-0.99	O,O,O-triphenyl phosphorothionate	Reproductive toxicity, Hazard Category 2,Chronic Aquatic Hazard Category 4; H361, H413 [1]
1.3115-49-9 2.221-486-2 3.Not Available	<0.099	4-nonylphenoxyactic acid	Skin Corrosion/Irritation Category 1A, Acute Toxicity (Oral) Category 4, Chronic Aquatic Hazard Category 2, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Metal Corrosion Category 1; H314, H302,

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments
4.Not Available			H411, H318, H317, H290 [1]

Legend:	*1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available*

SECTION 4 First aid measures

4.1. 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 contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
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.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

- 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

5.1. Extinguishing media

- Foam.
- Dry chemical powder.
- Carbon dioxide.
- Water spray or fog - Large fires only.

Do not use water jets.

5.2. 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

5.3. 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. ▸ 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). Combustion products include: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. **CARE**: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	Slippery when spilt. ▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment.
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. ▸ Wear breathing apparatus plus protective gloves.

6.4. Reference to other sections

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

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps.
Fire and explosion protection	See section 5
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.

7.2. 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 ▸ Extremely high temperatures. **Do not** store in direct sunlight.

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
octylated diphenylamines	Dermal 0.08 mg/kg bw/day (Systemic, Chronic) Inhalation 0.6 mg/m³ (Systemic, Chronic) *Dermal 0.04 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.14 mg/m³ (Systemic, Chronic) ** *Oral 0.04 mg/kg bw/day (Systemic, Chronic) **	0.034 mg/L (Water (Fresh)) 0.003 mg/L (Water - Intermittent release) 0.51 mg/L (Water (Marine)) 0.446 mg/kg sediment dw (Sediment (Fresh Water)) 0.045 mg/kg sediment dw (Sediment (Marine)) 1.76 mg/kg soil dw (Soil) 10 mg/L (STP)
O,O,O-triphenyl phosphorothionate	Dermal 0.4 mg/kg bw/day (Systemic, Chronic) Inhalation 1.39 mg/m³ (Systemic, Chronic) *Dermal 0.2 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.34 mg/m³ (Systemic, Chronic) ** *Oral 0.2 mg/kg bw/day (Systemic, Chronic) **	2.37 mg/kg soil dw (Soil) 10 mg/L (STP)
4-nonylphenoxyactic acid	Dermal 0.5 mg/kg bw/day (Systemic, Chronic) Inhalation 1.76 mg/m³ (Systemic, Chronic) Inhalation 17.6 mg/m³ (Systemic, Acute) *Dermal 0.25 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.43 mg/m³ (Systemic, Chronic) ** *Oral 0.25 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 4.3 mg/m³ (Systemic, Acute) **	0.001 mg/L (Water (Fresh)) 0 mg/L (Water - Intermittent release) 0.009 mg/L (Water (Marine)) 0.02 mg/kg sediment dw (Sediment (Fresh Water)) 0.002 mg/kg sediment dw (Sediment (Marine)) 0.004 mg/kg soil dw (Soil) 1 mg/L (STP)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Belgium Occupational Exposure Limits	interchangeable low viscosity base oil (<20.5 cSt @40C)	Huiles minérales (brouillards)	5 mg/m3	10 mg/m3	Not Available	Not Available

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
interchangeable low viscosity base oil (<20.5 cSt @40C)	Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7	140 mg/m3	1,500 mg/m3	8,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
interchangeable low viscosity base oil (<20.5 cSt @40C)	2,500 mg/m3	Not Available
octylated diphenylamines	Not Available	Not Available
O,O,O-triphenyl phosphorothionate	Not Available	Not Available
4-nonylphenoxyactic acid	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
octylated diphenylamines	D	> 0.01 to ≤ 0.1 mg/m³
O,O,O-triphenyl phosphorothionate	E	≤ 0.01 mg/m³
4-nonylphenoxyactic acid	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

MATERIAL DATA

NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

8.2. Exposure controls

8.2.1. Appropriate	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed

engineering controls	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.
8.2.2. 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
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. Personal hygiene is a key element of effective hand care. ‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream. ‣ Skin cleansing cream.

Respiratory protection

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear light brown; Slightly hydrocarbon odour.

Physical state	Liquid	**Relative density (Water = 1)**	0.87
Odour	Not Available	**Partition coefficient n-octanol / water**	>6
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	>320
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	-30 (pour pt)	**Viscosity (cSt)**	55 @ 40C
Initial boiling point and boiling range (°C)	>280	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	240 (COC)	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available

Upper Explosive Limit (%)	10	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	1	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	<0.0005 @ 20C	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	>1	**VOC g/L**	0 (%)

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	‣ Unstable in the presence of incompatible materials. ‣ Product is considered stable. ‣ Hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	Inhalation hazard is increased at higher temperatures. Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
Ingestion	Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives . Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Principal route of exposure is by skin contact; lesser exposures include inhalation of fumes from hot oils, oil mists or droplets. Prolonged contact with mineral oils carries with it the risk of skin conditions such as oil folliculitis, eczematous dermatitis, pigmentation of the face (melanosis) and warts on the sole of the foot (plantar warts). With highly refined mineral oils no appreciable systemic effects appear to result through skin absorption. Exposure to oil mists frequently elicits respiratory conditions, such as asthma; the provoking agent is probably an additive. NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

Roto Inject Fluid Ndurance	**TOXICITY**	**IRRITATION**
	Dermal (Rat) LD50: >5000 mg/kg[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg[2]	
interchangeable low viscosity base oil (<20.5 cSt @40C)	**TOXICITY**	**IRRITATION**
	Not Available	Not Available

octylated diphenylamines	**Toxicity**	**Irritation**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye:Mild[1]
	Oral (rat) LD50: >2000mg/kg[2]	Skin:Mild[1]
O,O,O-triphenyl phosphorothionate	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
4-nonylphenoxyactic acid	**TOXICITY**	**IRRITATION**
	Not Available	Eye (rabbit) : Corrosive *
		Skin (rabbit): Corrosive *
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

OCTYLATED DIPHENYLAMINES	For substituted diphenylamines: Based upon reviewed data the physicochemical and toxicological properties of the substituted diphenylamines are similar and follow a regular pattern as a result of that structural similarity. Because of their powerful antioxidant properties, Substituted Diphenylamines, along with their common starting material, Diphenylamine, are regulated for use in several food-contact applications by the Food and Drug Administration as Indirect Food Additives under the following sections of the Code of Federal Regulations (CFR): Heating may generate vapors which can irritate the eyes and respiratory passages. Drying of skin and mucous membranes leading to irritation may be possible from prolonged or repeated contact. Overexposure to vapors from heating the product may cause and/or skin irritation and respiratory tract irritation with symptoms such as, but not limited to, dizziness and flu-like symptoms **Acute toxicity:** As a group these materials do not produce significant acute toxicity in mammals. All show a slight to very low order of toxicity following oral administration, with LD50 values ranging from >5000 to > 34,000 mg/kg. Potential sensitiser producing contact allergies.
O,O,O-TRIPHENYL PHOSPHOROTHIONATE	No significant acute toxicological data identified in literature search. For dithiophosphate alkyl esters and their (zinc) salts: **Acute toxicity:** Dithiophosphate alkyl esters consist of a phosphorodithioic acid structure with alkyl ester substituent groups. The alkyl groups are saturated hydrocarbon chains that vary in length and extent of branching. While corrosive to tissue the esters demonstrate a low concern for acute systemic toxicity. Data on acute mammalian toxicity of zinc dialkyldithiophosphates in highly refined lubricant base oil also indicate a low concern for acute toxicity. PASS Predicts R63
4-NONYLPHENOXYACTIC ACID	Sensitiser: Guinea pig assay *Ciba SDS for acid mists, aerosols, vapours Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events in vivo in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from <5 to > 7 and normally averages 6.2. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation. Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence). The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.
Roto Inject Fluid Ndurance & INTERCHANGEABLE LOW VISCOSITY BASE OIL (<20.5 CST @40C)	NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP
OCTYLATED DIPHENYLAMINES & 4-NONYLPHENOXYACTIC	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic

ACID	skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important.

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 either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

SECTION 12 Ecological information

12.1. Toxicity

Roto Inject Fluid Ndurance

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

interchangeable low viscosity base oil (<20.5 cSt @40C)

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

octylated diphenylamines

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>100mg/L	2
EC50	48	Crustacea	>0.34mg/L	2
EC50	72	Algae or other aquatic plants	>0.008mg/L	2
EL10	504	Crustacea	1.69mg/L	2
NOEC	72	Algae or other aquatic plants	0.008mg/L	2

O,O,O-triphenyl phosphorothionate

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	83mg/L	2
EC50	48	Crustacea	>100mg/L	2
EC50	72	Algae or other aquatic plants	>100mg/L	2
NOEC	2088	Fish	0.0044mg/L	2

4-nonylphenoxyactic acid

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	9mg/L	2
EC50	48	Crustacea	0.88mg/L	2
EC50	72	Algae or other aquatic plants	18.37mg/L	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
octylated diphenylamines	HIGH	HIGH
O,O,O-triphenyl phosphorothionate	HIGH	HIGH
4-nonylphenoxyactic acid	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
octylated diphenylamines	LOW (LogKOW = 11.2613)
O,O,O-triphenyl phosphorothionate	HIGH (LogKOW = 6.4658)
4-nonylphenoxyactic acid	HIGH (LogKOW = 5.8043)

12.4. Mobility in soil

Ingredient	Mobility
octylated diphenylamines	LOW (KOC = 28640000)
O,O,O-triphenyl phosphorothionate	LOW (KOC = 215700)
4-nonylphenoxyactic acid	LOW (KOC = 2496)

12.5.Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Applicable	Not Applicable	Not Applicable
PBT Criteria fulfilled?	Not Applicable	Not Applicable	Not Applicable

12.6. Other adverse effects

No data available

SECTION 13 Disposal considerations

13.1. 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. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Authority for disposal. ▸ Bury or incinerate residue at an approved site. ▸ Recycle containers if possible, or dispose of in an authorised landfill.
Waste treatment options	EU Waste Disposal Code: 13 02 05
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

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

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Class: Not Applicable Subrisk: Not Applicable
14.4. **Packing group**	Not Applicable

14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): Not Applicable Classification code: Not Applicable Hazard Label: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Tunnel Restriction Code: Not Applicable

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

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	ICAO/IATA Class: Not Applicable ICAO / IATA Subrisk: Not Applicable ERG Code: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: Not Applicable Cargo Only Packing Instructions: Not Applicable Cargo Only Maximum Qty / Pack: Not Applicable Passenger and Cargo Packing Instructions: Not Applicable Passenger and Cargo Maximum Qty / Pack: Not Applicable Passenger and Cargo Limited Quantity Packing Instructions: Not Applicable Passenger and Cargo Limited Maximum Qty / Pack: Not Applicable

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

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	IMDG Class: Not Applicable IMDG Subrisk: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	EMS Number: Not Applicable Special provisions: Not Applicable Limited Quantities: Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Not Applicable: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable

14.6. **Special precautions for user**	Classification code	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable
	Equipment required	Not Applicable
	Fire cones number	Not Applicable

14.7. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

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

interchangeable low viscosity base oil (<20.5 cSt @40C) is found on the following regulatory lists

Belgium Occupational Exposure Limits
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1 : Carcinogenic to humans

octylated diphenylamines is found on the following regulatory lists

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
Europe EC Inventory
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

O,O,O-triphenyl phosphorothionate is found on the following regulatory lists

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
Europe EC Inventory
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

4-nonylphenoxyactic acid is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
Europe EC Inventory
Europe European Chemicals Agency (ECHA) Candidate List of Substances of Very High Concern for Authorisation
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2015/830; Regulation (EC) No 1272/2008 as updated through ATPs.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIC	Yes
Australia - Non-Industrial Use	No (octylated diphenylamines; O,O,O-triphenyl phosphorothionate; 4-nonylphenoxyactic acid)
Canada - DSL	Yes
Canada - NDSL	No (octylated diphenylamines; O,O,O-triphenyl phosphorothionate; 4-nonylphenoxyactic acid)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (O,O,O-triphenyl phosphorothionate; 4-nonylphenoxyactic acid)
Vietnam - NCI	Yes

National Inventory	Status
Russia - ARIPS	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	04/10/2019
Initial Date	12/04/2017

Full text Risk and Hazard codes

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

SDS Version Summary

Version	Issue Date	Sections Updated
15.1.1.1	09/08/2019	Classification, Ingredients
16.1.1.1	04/10/2019	Classification, Ingredients

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.

The 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.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index