Safety Data Sheet

1. Material and company identification

Material Name : **Roto-Xtend Duty Fluid**

Product Use : Compressor oil

Product Code : 0017 5201 20

Manufacturer/Supplier
: **Atlas Copco - North American**
Service Center, 11313 Steele Creek Road,
Charlotte, NC 28273, USA

Telephone : Please contact Atlas Copco Technical Support 866-865-7995 or the Atlas Copco Airpower office in Belgium: +32 3 870 2111 (8am-5pm CET)

Email Contact for Safety Data Sheet
: If you have any enquiries about the content of this Safety Data Sheet please email info.lubricants.cts@group.atlascopco.com

Emergency Telephone Number
: Only for medical related issues, please contact CHEMTREC : 800-424-9300

2. Hazards identification

2.1 GHS Classification : Not a hazardous substance or mixture.

GHS Label element
Hazard pictograms : No Hazard Symbol required
Signal word : No signal word

2.2 Hazard statements
Physical hazards : Not classified as a physical hazard under GHS criteria.
Health hazards : Not classified as a health hazard under GHS criteria.
Environmental hazards
: Not classified as an environmental hazard under GHS criteria.

2.3 Precautionary statements
Prevention : No precautionary phrases.
Response : No precautionary phrases.
Storage : No precautionary phrases.
Disposal : No precautionary phrases.

Other hazards which do not result in classification
: Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin result-ing in disorders such as oil acne/folliculitis. Used oil may contain harmful impurities.
Not classified as flammable but will burn.

The classification of this material is based on OSHA HCS 2012 criteria.

Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communica-tion Standard, 29 CFR 1910.1200.

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3. Composition/information on ingredients

3.1 Chemical nature : Blend of polyolefins and additives.

* contains one or more of the following CAS-numbers: 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-65-0, 68037-01-4, 72623-86-0, 72623-87-1, 8042-47-5, 848301-69-9.

Hazardous components

Chemical Name	Synonyms	CAS-No.	Concentration (%)
Alkaryl amine	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	1 - 2.4
Dialkyl thiophosphate ester		268567-32-4	0.1 - 0.9
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *		Not Assigned	0 - 90

4. First-aid measures

4.1 General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

4.3 Protection of first-aiders : When administering first aid, ensure that you are wearing theappropriate personal protective equipment according to the incident, injury and surroundings.

Immediate medical attention, special treatment : Treat symptomatically.

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5. Fire-fighting measures

5.1 Suitable extinguishing media

: Foam, water spray or fog. Dry chemical powder, carbon diox-ide, sand or earth may be used for small fires only.

Unsuitable extinguishing media

: Do not use water in a jet.

5.2 Specific hazards during fire-fighting

: Hazardous combustion products may include:A complex mixture of airborne solid and liquid particulates and gases (smoke).Carbon monoxide may be evolved if incomplete combustion occurs.Unidentified organic and inorganic compounds.

Suitable Extinguishing Media

: Use extinguishing measures that are appropriate to local cir-cumstances and the surrounding environment.

5.3 Special protective equipment for firefighters

: Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

6. Accidental release measures

6.1 Personal precautions, protec-tive equipment and emer-gency procedures

: Avoid contact with skin and eyes.

6.2 Environmental precautions

: Use appropriate containment to avoid environmental contami-nation.
Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

: Slippery when spilt. Avoid accidents, clean up immediately.
Prevent from spreading by making a barrier with sand, earth or other containment material.
Reclaim liquid directly or in an absorbent.
Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

6.4 Additional advice : For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

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7. Handling and storage

7.1 **Technical measures** : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

7.2 **Precautions for safe handling**
: Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists.
When handling product in drums, safetyfootwear should be worn and proper handling equipmentshould be used. Properly dispose of any contaminated rags orcleaning materials in order to prevent fires.

7.3 **Avoidance of contact**: Strong oxidising agents.

Product Transfer : This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.

7.4 **Storage**

Other data : Keep container tightly closed and in a cool, well-ventilatedplace. Use properly labelled and closeable containers.

Store atambient temperature.

Packaging material : Suitable material: For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Container Advice : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. Exposure controls and personal protection

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Value type (Form of exposure)	Basis
Oil mist, mineral	Not Assigned	TWA (inhal-able frac-tion)	5 mg/m^3	US. ACGIH Threshold Limit Values
		(Mist)	5 mg/m^3	OSHA_TRANS

Biological occupational exposure limits
: No biological limit allocated.

8.1 **Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure con-trols. For some substances biological monitoring may also be appropriate.Validated exposure measurement methods should be applied by a competent person and sam-plesanalysed by an accredited laboratory.

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Examples of sources of recommended exposure measurement methods are given below or con-tact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

InstitutfürArbeitsschutzDeutschenGesetzlichenUnfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Rechercheet de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information : Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or mainte-nance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard con-taminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

8.2 Personal protective equipment

Respiratory Protection: No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precau-tions should be taken to avoid breathing of material.If engineering controls do not maintain airborne concentra-tions to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the spe-cific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appro-priate combination of mask and filter.
Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

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Hand protection

Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical re-sistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Appli-cation of a non-perfumed moisturizer is recommended.
For continuous contact we recommend gloves with break-through time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye Protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection

: Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.

Protective measures : Personal protective equipment (PPE) should meet recom-mended national standards. Check with PPE suppliers.

Environmental exposure controls

General advice : Take appropriate measures to fulfill the requirements of rele-vant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being dis-charged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. Physical and chemical properties

9.1

Appearance	:	Liquid at room temperature.
Colour	:	light brown
Odour	:	Slight hydrocarbon
Odour Threshold	:	Data not available
pH	:	Not applicable
pour point	:	-45 °C / -49 °FMethod: ASTM D97
Initial boiling point and boiling range	:	> 280 °C / 536 °Festimated value(s)
Flash point	:	230 °C / 446 °F Method: ASTM D92

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Evaporation rate	:	Data not available
Flammability (solid, gas)		
	:	Data not available
Upper explosion limit	:	Typical 10 %(V)
Lower explosion limit	:	Typical 1 %(V)
Vapour pressure	:	< 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density		
	:	> 1estimated value(s)
Relative density	:	0.843 (15 °C / 59 °F)
Density	:	843 kg/m^3 (15.0 °C / 59.0 °F) Method: ASTM D4052
Solubility(ies)Water solubility		
	:	negligible
Solubility in other solvents		
	:	Data not available
Partition coefficient: n-octanol/water		
	:	Pow: > 6(based on information on similar products)
Auto-ignition temperature		
	:	>320 °C / 608 °F
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	7.7 mm^2/s (100 °C / 212 °F) Method: ASTM D445 46 mm^2/s (40.0 °C / 104.0 °F) Method: ASTM D445
Conductivity	:	This material is not expected to be a static accumulator.
Decomposition temperature		
	:	Data not available

10. Stability and reactivity

10.1 Reactivity : The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

10.2 Chemical stability : Stable.

10.3 Possibility of hazardous reac-tions
: Reacts with strong oxidising agents.

10.4 Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials
: Strong oxidising agents.

10.6 Hazardous decomposition products
: Hazardous decomposition products are not expected to form during normal storage.

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11. Toxicological information

11.1 Basis for Assessment

: Information given is based on data on the components and the toxicology of similar products.Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure

: Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity
Product:

Acute oral toxicity : LD50 (rat):> 5,000 mg/kg
Remarks: Expected to be of low toxicity:

Acute inhalation toxicity
: Remarks: Not considered to be an inhalation hazard under normal conditions of use.

Acute dermal toxicity : LD50 (Rabbit):> 5,000 mg/kg
Remarks: Expected to be of low toxicity:

Skin corrosion/irritation
Product:

Remarks : Expected to be slightly irritating., Prolonged or repeated skin contact without propercleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation
Product:

Remarks : Expected to be slightly irritating.

Respiratory or skin sensitisation

Product:

Remarks : Not expected to be a skin sensitiser.

Components:
Dialkyl thiophosphate ester

Remarks : May cause an allergic skin reaction in sensitive individuals.

Germ cell mutagenicity
Product:

Remarks : Not considered a mutagenic hazard.

Carcinogenicity
Product:

Remarks : Not expected to be carcinogenic.

IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcino-gen by ACGIH.

OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcino-gen by OSHA.

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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Reproductive toxicity
Product:
Remarks : Not expected to impair fertility., Not expected to be a developmental toxicant.

STOT - single exposure
Product:
Remarks : Not expected to be a hazard.

STOT - repeated exposure
Product:
Remarks : Not expected to be a hazard.

Aspiration toxicity
Product : Not considered an aspiration hazard.

11.2 Further information

Product : Remarks: Used oils may contain harmful impurities that have accumulated during use. The con-centration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.
Remarks : Slightly irritating to respiratory system.

12. Ecological information

12.1 Basis for assessment

: Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representa-tive of the product as a whole, rather than for individual com-ponent(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Ecotoxicity
Product:
Toxicity to fish (Acute toxici-ty)
: Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)
: Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to algae (Acute tox-icity)
: Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to fish (Chronic tox-icity)
: Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chron-ic toxicity)
: Remarks: Data not available
Toxicity to bacteria (Acute toxicity)
: Remarks: Data not available

Persistence and degradability
Product:
Biodegradability : Remarks: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegrada-ble, but contains components that may persist in the environ-ment.

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Bioaccumulative potential
Product:
Bioaccumulation : Remarks: Contains components with the potential to bioac-cumulate.

Mobility in soil
Product:
Mobility : Remarks: Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile.
Remarks: Floats on water.

12.2 Other adverse effects

: no data available

Product:
Additional ecological information
: Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemi-cal ozone creation potential or global warming potential.
Poorly soluble mixture.May cause physical fouling of aquatic organisms.Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

13. Disposal considerations

13.1 Disposal methods

Waste from residues : Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or na-tional requirements and must be complied with.

13.2 Contaminated packaging

: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. Transport information

National Regulations
US Department of Transportation Classification (49 CFR Parts 171-180)
: Not regulated as a dangerous good
International Regulation
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Not applicable
Ship type : Not applicable
Product name : Not applicable
Special precautions : Not applicable

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Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information
: MARPOL Annex 1 rules apply for bulk shipments by sea.

15. Regulatory information

15.1 OSHA Hazards : No OSHA Hazards

EPCRA-Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Cumene	98-82-8	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

CERCLA Reportable Quantity
: Calculated RQ exceeds reasonably attainable upper limit., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reporta-ble under CERCLA., The components with RQs are given for information.

SARA 304 Extremely Hazardous Substances Reportable Quantity
: This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards
: No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

15.2 Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Naphthalene	91-20-3	0.0091 %
Xylene, mixed isomers	1330-20-7	0.0001 %

Pennsylvania Right To Know

Diphenylamine : 122-39-4

California Prop 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.

The components of this product are reported in the following inventories:

EINECS : All components listed or polymer exempt.
TSCA : All components listed.
DSL : All components listed.

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16. Other information

16.1 Further information

NFPA Rating (Health, Fire, Reac-tivity)
: 0, 1, 0

Due to the conversion of this product to GHS classification and labelling, there has been a significant change to the nature of the information presented in chapter 2.A vertical bar (|) in the left margin indicates an amendment from the previous version.

16.2 Abbreviations and Acronyms

: The standard abbreviations and acronyms used in this docu-ment can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = DeutschesInstitut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicolo-gy Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory

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LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Ob-served Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation AndAuthorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dan-gerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

16.3 SDS Effective Date : 01.06.2015

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.