



Rotair Xtra

ICD (International Compressor Distribution) nv

Chemwatch: 5249-87

Version No: 9.1.1.1

Safety Data Sheet (Conforms to Regulation (EU) No 2015/830)

Issue Date: 21/02/2019

Print Date: 21/02/2019

L.REACH.GBR.EN

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

1.1. Product Identifier

Product name	Rotair Xtra
Synonyms	Rotair Xtra
Other means of identification	Not Available

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	ICD (International Compressor Distribution) nv
Address	Boomsesteenweg 957 Wilrijk B-2610 Belgium
Telephone	+32 3 870 2111
Fax	+32 3 870 2903
Website	Not Available
Email	info.lubricants@icdcompany.com

1.4. Emergency telephone number

Association / Organisation	Not Available	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	Not Available	+44 808 164 9592
Other emergency telephone numbers	Not Available	+44 20 3901 3542

SECTION 2 HAZARDS IDENTIFICATION

2.1.

Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP]	Not Applicable
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2.2. Label elements

Hazard pictogram(s)	Not Applicable
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SIGNAL WORD

NOT APPLICABLE

Hazard statement(s)

Not Applicable

Supplementary statement(s)

EUH208	Contains 3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid. 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

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

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]
1.68411-46-1. 2.270-128-1 411-790-5 3.Not Available 4.01-2119491299-23-XXXX	1-2.4	<u>alkaryl amine</u>	Chronic Aquatic Hazard Category 3; H412 [1]
1.268567-32-4 2.434-070-2 3.Not Available 4.01-2119658068-31-XXXX 01-0000018022-84-XXXX	0.1-0.9	<u>3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid</u>	Serious Eye Damage Category 1, Chronic Aquatic Hazard Category 3, Skin Sensitizer Category 1; H318, H412, H317 [1]
1.Not Available 2.Not Available 3.Not Available 4.Not Available	0.1-90	<u>mineral oil</u>	Not Applicable
Not Available		- contains one or more of the following CAS-numbers (REACH registration numbers):	
Not Available		64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25),	
Not Available		64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48),	
Not Available		64742-65-0 (01-2119471299-27), 68037-01-4 (01-2119486452-34),	
Not Available		72623-86-0 (01-2119474878-16), 72623-87-1 (01-2119474889-13),	
Not Available		8042-47-5 (01-2119487078-27), 848301-69-9 (01-0000020163-82)	

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

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4.1. Description of first aid measures

Eye Contact	▶ If in eyes, hold eyelids apart and flush the eye continuously with running water. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ 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. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol.

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 a water jet to fight fire.

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
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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. ▶ Avoid spraying water onto liquid pools. ▶ DO NOT approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location. ▶ If safe to do so, remove containers from path of fire.
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). ▶ May emit acrid smoke. ▶ Mists containing combustible materials may be explosive. Combustion products include: carbon dioxide (CO₂)

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other pyrolysis products typical of burning organic material.
May emit poisonous fumes.

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. - Contain and absorb spill with sand, earth, inert material or vermiculite. - Wipe up. - Place in a suitable, labelled container for waste disposal.
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. - Prevent, by any means available, spillage from entering drains or water course. - No smoking, naked lights or ignition sources. - Increase ventilation. - Stop leak if safe to do so. - Contain spill with sand, earth or vermiculite. - Collect recoverable product into labelled containers for recycling. - Absorb remaining product with sand, earth or vermiculite. - Collect solid residues and seal in labelled drums for disposal. - Wash area and prevent runoff into drains. - If contamination of drains or waterways occurs, advise emergency services.

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	The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid. - 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. DO NOT allow clothing wet with material to stay in contact with skin - Electrostatic discharge may be generated during pumping - this may result in fire. - Ensure electrical continuity by bonding and grounding (earthing) all equipment. - Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). - Avoid splash filling. - Do NOT use compressed air for filling discharging or handling operations. - 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. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. - Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. - Keep containers securely sealed when not in use. - Avoid physical damage to containers. - Always wash hands with soap and water after handling. - Work clothes should be laundered separately. Launder contaminated clothing before re-use.
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	▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
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. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

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

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Rotair Xtra	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
alkaryl amine	Not Available	Not Available
3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid	Not Available	Not Available
mineral oil	Not Available	Not Available

MATERIAL DATA

8.2. Exposure controls

8.2.1. 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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.
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Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

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. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when

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	considering gloves for long-term use. - Contaminated gloves should be replaced. As defined in ASTM F-739-96 in any application, gloves are rated as: - Excellent when breakthrough time > 480 min - Good when breakthrough time > 20 min - Fair when breakthrough time < 20 min - Poor when glove material degrades For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: - Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. - Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. - Neoprene rubber gloves - 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. - Eye wash unit.

Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+			Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand

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

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 liquid, slight hydrocarbon odour		
Physical state	Liquid	Relative density (Water = 1)	0.843 @ 15 C
Odour	Not Available	Partition coefficient n-octanol / water	>6

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Odour threshold	Not Available	Auto-ignition temperature (°C)	>320
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	-45 (pour pt)	Viscosity (cSt)	46 @ 40C
Initial boiling point and boiling range (°C)	~>280	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	230	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 Applicable
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. Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination
Ingestion	Ingestion may result in nausea, abdominal irritation, pain and vomiting
Skin Contact	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, puncture wounds 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. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
Eye	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	Repeated or prolonged exposure to mixed hydrocarbons may produce narcosis with dizziness, weakness, irritability, concentration and/or memory loss, tremor in the fingers and tongue, vertigo, olfactory disorders, constriction of visual field, paraesthesias of the extremities, weight loss and anaemia and degenerative changes in the liver and kidney. Chronic exposure by petroleum workers, to the lighter hydrocarbons, has been associated with visual disturbances, damage to the central nervous system, peripheral neuropathies (including numbness and paraesthesias), psychological and

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neurophysiological deficits, bone marrow toxicities (including hypoplasia possibly due to benzene) and hepatic and renal involvement. Chronic dermal exposure to petroleum hydrocarbons may result in defatting which produces localised dermatoses. Surface cracking and erosion may also increase susceptibility to infection by microorganisms. One epidemiological study of petroleum refinery workers has reported elevations in standard mortality ratios for skin cancer along with a dose-response relationship indicating an association between routine workplace exposure to petroleum or one of its constituents and skin cancer, particularly melanoma. Other studies have been unable to confirm this finding.

Animal studies:

No deaths or treatment related signs of toxicity were observed in rats exposed to light alkylate naphtha (paraffinic hydrocarbons) at concentrations of 668, 2220 and 6646 ppm for 6 hrs/day, 5 days/wk for 13 weeks. Increased liver weights and kidney toxicity (male rats) was observed in high dose animals. Exposure to pregnant rats at concentrations of 137, 3425 and 6850 ppm did not adversely affect reproduction or cause maternal or foetal toxicity. Lifetime skin painting studies in mice with similar naphthas have shown weak or no carcinogenic activity following prolonged and repeated exposure. Similar

naphthas/distillates, when tested at nonirritating dose levels, did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chronic irritation and not to dose. The mutagenic potential of naphthas has been reported to be largely negative in a variety of mutagenicity tests. The exact relationship between these results and human health is not known. Some components of this product have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of a alpha-2u-globulin, a mechanism unique to the male rat. Humans do not form alpha-2u-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in human. Repeated application of mildly hydrotreated oils (principally paraffinic), to mouse skin, induced skin tumours; no tumours were induced with severely hydrotreated oils.

Rotair Xtra	TOXICITY	IRRITATION
	Dermal (Rabbit) LD50: >5000 mg/kg ^[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg ^[2]	
alkaryl amine	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): Non Irritant
	Oral (rat) LD50: >2000 mg/kg ^[2]	Skin (rabbit): Non Irritant [Bay]
3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: Severe ^[1]
	Oral (rat) LD50: >2000mg/kg ^[2]	Skin: Not irritating ^[1]
mineral oil	TOXICITY	IRRITATION
	Not Available	Not Available
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	

3-(DIISOBUTOXYTHIOPHOSPHORYLSULFANYL)METHYLPROPIONIC ACID	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 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. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. Evidence of sensitisation in guinea pig skin assay * Oral repeat dose toxicity (28 days): NOEL 20 mg/kg/day bw * Non-mutagenic in bacterial reverse mutation assay * Non-genotoxic in in vivo micronucleus test * The chemical was of low acute oral and dermal toxicity in rats, was not a skin irritant but was a slight eye irritant in rabbits, and was neither mutagenic in bacteria nor clastogenic in mouse bone marrow cells. It was a skin sensitizer in guinea pigs and exhibited systemic effects at a dose of 500 mg/kg/day bw in a 28-day oral repeated dose study in rats although some of these effects may have been adaptive in nature Clinical Chemistry Elevated triglyceride and phospholipid levels were noted in high dose animals of both sexes and elevated cholesterol levels in high dose females. These changes were considered to be an adaptive response and were reversed during the recovery

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	period. All changes were within the 95% confidence limits of the historical control data. Higher albumin levels and albumin/globulin ratios were found in high dose animals of both sexes, higher total protein in high dose females. After recovery the elevated albumin levels persisted in males. All changes were within the 95% confidence limits of the historical control data. High dose males exhibited higher urea and lower creatinine levels which were within the 95% confidence limits of the historical control data. Haematology Plasma haemoglobin concentration and haematocrit were lower in high dose animals and red blood cell count was lower in high dose females. The toxicological significance of these findings is uncertain. High dose animals exhibited a prolonged activated partial thromboplastin time, females had a shorter thromboplastin time and males had a higher platelet count. All changes were within the 95% confidence limits of the historical control data. Prolonged activated PTT and platelet counts reached statistical significance in high dose recovery group males. Urinalysis Ketone was present in mid dose females and high dose animals of both sexes and was considered to be related to the adaptive changes in lipid metabolism. High dose females exhibited higher specific gravity and high dose animals of both sexes had slightly lower urine production. These were within the 95% confidence limits of historical control data and may indicate a possible change in the ability to concentrate urine. Effects in Organs High dose animals exhibited higher absolute and relative liver weights. These effects persisted in males at the end of the recovery period and were considered to be treatment related yet adaptive. High dose animals exhibited higher kidney/body weight ratios, higher absolute kidney weights and kidney to brain weight ratio. Mid dose males also exhibited an elevated kidney/body weight ratio. CONCLUSION The No Observed Effect Level (NOEL) was established as 20 mg/kg bw/day in this study, based on elevated kidney/body weight ratio in males NICNAS Full Public Report 11 September 2002
MINERAL OIL	Toxicity and Irritation data for petroleum-based mineral oils are related to chemical components and vary as does the composition and source of the original crude. A small but definite risk of occupational skin cancer occurs in workers exposed to persistent skin contamination by oils over a period of years. This risk has been attributed to the presence of certain polycyclic aromatic hydrocarbons (PAH) (typified by benz[a]pyrene). Petroleum oils which are solvent refined/extracted or severely hydrotreated, contain very low concentrations of both.

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

Rotair Xtra	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
alkaryl amine	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

Rotair Xtra

3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	38mg/L	2
	EC50	48	Crustacea	53mg/L	2
	EC50	72	Algae or other aquatic plants	79mg/L	2
	EC100	48	Crustacea	100mg/L	2
	NOEC	96	Fish	27mg/L	2
mineral oil	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

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

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

12.4. Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

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	▶ 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	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
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Rotair Xtra

	Not Applicable
HAZCHEM	Not Applicable

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)	<table> <tr> <td>Class</td><td>Not Applicable</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	Not Applicable	Subrisk	Not Applicable						
Class	Not Applicable										
Subrisk	Not Applicable										
14.4. Packing group	Not Applicable										
14.5. Environmental hazard	Not Applicable										
14.6. Special precautions for user	<table> <tr> <td>Hazard identification (Kemler)</td><td>Not Applicable</td></tr> <tr> <td>Classification code</td><td>Not Applicable</td></tr> <tr> <td>Hazard Label</td><td>Not Applicable</td></tr> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Limited quantity</td><td>Not Applicable</td></tr> </table>	Hazard identification (Kemler)	Not Applicable	Classification code	Not Applicable	Hazard Label	Not Applicable	Special provisions	Not Applicable	Limited quantity	Not Applicable
Hazard identification (Kemler)	Not Applicable										
Classification code	Not Applicable										
Hazard Label	Not Applicable										
Special provisions	Not Applicable										
Limited quantity	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)	<table> <tr> <td>ICAO/IATA Class</td><td>Not Applicable</td></tr> <tr> <td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>Not Applicable</td></tr> </table>	ICAO/IATA Class	Not Applicable	ICAO / IATA Subrisk	Not Applicable	ERG Code	Not Applicable								
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	<table> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>Not Applicable</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>Not Applicable</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>Not Applicable</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>Not Applicable</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Not Applicable</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>Not Applicable</td></tr> </table>	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
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)	<table> <tr> <td>IMDG Class</td><td>Not Applicable</td></tr> <tr> <td>IMDG Subrisk</td><td>Not Applicable</td></tr> </table>	IMDG Class	Not Applicable	IMDG Subrisk	Not Applicable		
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	<table> <tr> <td>EMS Number</td><td>Not Applicable</td></tr> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Limited Quantities</td><td>Not Applicable</td></tr> </table>	EMS Number	Not Applicable	Special provisions	Not Applicable	Limited Quantities	Not Applicable
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****ALKARYL AMINE(68411-46-1.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances	European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
Europe EC Inventory	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD	IMO IBC Code Chapter 17: Summary of minimum requirements
European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
European Customs Inventory of Chemical Substances ECICS (English)	

3-(DIISOBUTOXYTHIOPHOSPHORYLSULFANYL)METHYLPROPIONIC ACID(268567-32-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Europe EC Inventory	European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification
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MINERAL OIL(NOT AVAILABLE) IS FOUND ON THE FOLLOWING REGULATORY LISTS

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards

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.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
alkaryl amine	68411-46-1.	Not Available	01-2119491299-23-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Chronic 3		H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid	268567-32-4	Not Available	01-2119658068-31-XXXX 01-0000018022-84-XXXX

Harmonisation (C&L)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
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Rotair Xtra

Inventory)			
1	Skin Sens. 1; Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H317; H318; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status
Australia - AICS	No (mineral oil)
Canada - DSL	No (mineral oil)
Canada - NDSL	No (3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid; mineral oil; alkaryl amine)
China - IECSC	No (mineral oil)
Europe - EINEC / ELINCS / NLP	No (3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid; mineral oil)
Japan - ENCS	No (3-(diisobutoxythiophosphorylsulfanyl)methylpropionic acid; mineral oil; alkaryl amine)
Korea - KECI	No (mineral oil)
New Zealand - NZIoC	No (mineral oil)
Philippines - PICCS	No (mineral oil)
USA - TSCA	No (mineral oil)
Legend:	Yes = All ingredients are on the inventory No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	21/02/2019
Initial Date	19/04/2017

Full text Risk and Hazard codes

H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

SDS Version Summary

Version	Issue Date	Sections Updated
8.1.1.1	18/12/2018	Emergency Telephone Number, Ingredients, Toxicity and Irritation (Irritation)
9.1.1.1	21/02/2019	Physical Properties

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

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