

SAFETY DATA SHEET



MANNOL TO-4 Powertrain oil SAE 50

Prepared according to Commission Regulation (EC) No. 453/2010

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

1.1 Product identifier: Special gear oil Mannol TO-4 Powertrain oil SAE 50

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

Mannol TO-4 Powertrain oil SAE 50-special gear oil for use in the transmission, final drives, hydraulic, brake and other oil-cooled systems in construction, mining and off-road vehicles (tractor, loader, bulldozer, excavator). Provides a longer life of the clutch discs. Meets the Cat TO-4 requirements for lubricants TDTO (Transmission / Drive Train Oil) from Caterpillar. It is not recommended to mix the oil with other hydraulic and engine oils.

1.3 Details of the supplier of the safety data sheet: UAB "SCT Lubricants"

Adress: Šilutės pl. 119, 5800 Klaipėda, Lithuania

Telephone: +370 46 340345

E-mail: klaipeda@sct.lt

Fax: (37046) 341891

1.4 Emergency telephone number: Adress: Šiltnamiu 29, LT-2043 Vilnius, telephone 8-5236 20 52 or +370 687 53378 (All day)

2. SECTION HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008

This product is not meet the classification requirements of the current European legislation.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008

Not applicable

Supplemental label information

None

2.3 Other hazards

None indentified

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1272/2008.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1272/2008.

3. SECTION COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable

3.2 Mixtures

Hazardous ingredients:

EB Nr.	CAS Nr.	Reg. number	Name	Content %	Classification according to Regulation (EC) 1272/2008 (CLP)
-	-	-	Calcium long-chain alkylphenate sulfide	0,3-0,6 %	Aquatic Chronic 4; H413
272-028-3	68649-42-3	-	Zinc dialkyl dithiophosphate	0,3-0,6 %	Aquatic Chronic 2; H411 Skin.Irrit.2,H315 Eye.Dam.1,H318
-	-	-	Alkyl esters of alkyl	0,06-0,3 %	Aquatic Chronic

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			phenate alkanolic acid		4; H413
-	-	-	Alkaryl amine	0,06-0,3 %	Aquatic Chronic 4; H413;
203-202-9	104-43-8	-	Phenol, 4-dodecyl-	0,03-0,06 %	Skin.Irrit.2,H315 Repr.2, H361f, Aquatic acute 1, H400; Aquatic Chronic 1; H410
-	68551-12-2	-	Alkoxyated long-chain alkyl alcohol	0,006-0,031 %	Eye Dam.1, H318; Aquatic acute 1, H400;
-	-	-	Organomolybdenum amide	0,006-0,031 %	Aquatic Chronic 2; H411

It contains the following components that are not classified as dangerous according to Regulation (EC) 1272/2008: polymethacrylate, polyisobutene (viscosity modifier), the base oil (DMSO extract <3%, IP 346) and by viscosity the substance does not hazard by aspiration.

For the text of the R-phrases / H-phrases and classification codes (GHS/CLP), see Section 16.

4. SECTION FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Wash with soap and water. Get medical attention if irritation develops.

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Flush with water at least 30 minutes. Get medical attention if eye irritation develops or persists.

Swallowed

DO NOT INDUCE VOMITING. Get immediate medical attention.

Advice for first-aid providers

When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. After providing first aid wash your exposed skin with soap and water.

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

Note to physician: treat symptomatically

5. SECTION FIRE-FIGHTING MEASURES

5.1 Extinguishing media

CO₂, dry chemical, or foam. Water can be used to cool and protect exposed material.

5.2 Special hazard arising from the substance or mixture

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See section 10 for additional information.

5.3 Advice for firefighters

Recommend wearing self-contained breathing apparatus. Water may cause splattering.

6. SECTION ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal protective equipment must be worn. Ventilate area if spilled in a confined space or other poorly ventilated area.

6.2 Environmental precautions

Prevent entry into sewers and waterways.

6.3 Methods and material for containment and cleaning up

Stop leak if possible without risk

Remove sources of ignition

Absorb in vermiculite, dry sand or earth and place into containers.

Collect spillage in containers, seal securely and deliver for disposal according to local regulations

6.4 Reference to other section

See sections 8 and 13 for additional information.

7. SECTION HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep containers closed when not in use. Wash thoroughly after handling. Launder contaminated clothing before reuse. Empty container contains product residue which may exhibit hazards of product. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

Maximum Handling Temperature

70 °C, 158 °F

Maximum pumping temperature

Ambient

Maximum loading temperature

Not determined

7.2 Conditions for safe storage, including any incompatibilities

See section 10 for incompatible materials.

Maximum Storage Temperature

Not determined.

Max. Storage temperature

45 °C, 113 °F

7.3 Specific end use(s)

See section 1.2.

8. SECTION EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40): 300 mg/m³

Chemical Name	Oil mist, mineral	Content %:

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WEL-TWA: 5 mg/m3 (ACGIH)	WEL-STEL: 10 mg/m3 (ACGIH)	---
BMGV: ---	Other information: ---	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

Distillates (petroleum), hydrotreated heavy paraffinic						
Area of application	Exposure route /Environmental compartment	Effect on health	Descriptor	Value	Unit	Notes
Workers / employees	Human - inhalation	Long term, local effects	DNEL	5,4	mg/m3	
Consumer	Human - inhalation	Long term, systemic	DNEL	1,2	mg/m3	
	Environment – oral (animal feed)		PNEC	9.33	mg/kg feed	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Solvent resistant protective gloves (EN 374). If applicable

Protective nitrile gloves (EN 374) Minimum layer thickness in mm: 0,4

Permeation time (penetration time) in minutes: 480

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 374 Part III were not obtained under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection: Normally not necessary.

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If OES or MEL is exceeded.

Filter A2 P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents. Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

9. SECTION PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour	Yellow-Brownish
Odour	Oil. Faint
Odour threshold	Not determined
pH-value	Not determined
Melting point/freezing point	~-30 °C
Initial boiling point and boiling range	Not determined
Flash point, open cup (ASTM D-92)	>220 °C
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Lower explosive limit	Not determined
Upper explosive limit	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	~0,899g/ml (15°C)
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Insoluble
Partition coefficient (n-octanol/water)	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity (at 100°C)	>16,3 mm ² /s
Viscosity (at 40°C)	>190 mm ² /s
Explosive properties:	Not determined When using product is not explosive. development of explosive vapour/air mixture possible
Oxidising properties:	Not determined

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9.2 Other information

Miscibility	Not determined
Fat solubility / solvent	Not determined
Conductivity	Not determined
Surface tension	Not determined
Solvents content	Not determined

10. SECTION STABILITY AND REACTIVITY

10.1 Reactivity

See also Subsection 10.2 to 10.6. The product has not been tested.

10.2 Chemical stability

Material is normally stable at moderately elevated temperatures and pressures.

10.3 Possibility of hazardous reactions

Will not occur.

10.4 Conditions to avoid

See also section 7.

Heating, open flame, ignition sources

Pressure increase will result in danger of bursting.

10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents, strong acids

10.6 Hazardous decomposition products

Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

No decomposition when used as directed

11. SECTION TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral

The LD50 in rats is >10000 mg/kg. Based on data from components or similar materials

Dermal

The LD50 in rabbits is >2000mg/kg. Based on data from components or similar materials

Inhalation

No data available to indicate product or components may be a toxic inhalation hazard.

Skin corrosion/ irritation

Not expected to be a primary skin irritant. Based on data from components or similar materials.

Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

Serious eye damage/irritation

Not expected to cause eye irritation. Based on data from components or similar materials.

Respiratory irritation

If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials.

Respiratory or skin sensitization

Skin

No data available to indicate product or components may be a skin sensitizer

Respiratory

No data available to indicate product or components may be respiratory sensitizer.

Germ mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

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This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Reproductive Toxicity

No data available.

STOT repeated exposure

No data available to indicate product or components present at greater than 1% are chronic health hazards.

Other information

Distillates (petroleum), hydrotreated heavy paraffinic						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:	NOAEC	10000	ppm	Rat		Not sensitising
Aspiration hazard:						Yes

12. SECTION ECOLOGICAL INFORMATION

Possibly more information on environmental effects, see Section 2.1 (classification).

12.1 Toxicity

Toxicity to fish

No information available.

Toxicity to daphnia

Chronic effects expected at 1 - 10 mg / l. was based on data from similar materials.

Toxicity to algae

No information available.

Bacterias

No information available.

12.2 Persistence and degradability

Insoluble in water, not readily biodegradable

12.3 Biocumulative potencial

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects

None known

13. SECTION DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

For the substance/ mixture/residual amounts

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Recover and reclaim or recycle, if practical. Do not allow runoff to sewer, waterway or ground. Confirm disposal procedures with environmental engineer and local regulations.

Contaminated packaging: Drums that are to be recycled must be thoroughly evacuated. Turn empty drum up side down, somewhat leaning (ca 10) with opening in lowest position. Let remaining products run out until drum is drip-free. Do not reseal without ventilating at a place free from ignition sources. See section 7 for further instructions.

Code of waste EWC: 13 02 05

Waste engine, gear and lubricating oils-mineral-based non-chlorinated engine, gear and lubricating oils. Always check the given waste codes according to the actual conditions of manufacturing, formulation or use in your facilities.

For contaminated packing material

Pay attention to local and national official regulations Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

15 01 01 paper and cardboard packaging

15 01 02 plastic packaging

15 01 04 metallic packaging

14. SECTION TRANSPORT INFORMATION (RID/ADR)

14.1 UN number

ADR/RID Not regulated

ICAO Not regulated

IMDG Not regulated

14.2 Proper Shipping Name

ADR/RID not regulated

ICAO not regulated

IMDG not regulated

14.3 Hazard Class

ADR/RID not regulated

ICAO not regulated

IMDG not regulated

14.4 Packing Group

ADR/RID not regulated

ICAO not regulated

IMDG not regulated

14.5 Environmental hazard

ADR/RID not regulated

ICAO not regulated

IMDG not regulated

14.6 Special precautions for user

Review classification requirements before shipping materials at elevated temperatures.

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

Not determined

15. SECTION REGULATORY INFORMATION

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

UK Regulatory References

Health and safety at work Act. 1974

The Control of substances hazardous to health regulations 2002(S.I 2002 No.3677) with amendment
EU Legislation

Dangerous substance Directive 67/548/EEC

Dangerous preparations Directive 1999/45/EC

Regulation (EC) No1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals(REACH), establishing a European Chemicals Agency, amending Directive1999/45/EC and repealing Council Regulation (EEc) No 793/93 and Commission Regulation (EC) No 1488/94 as well as council Directive 76/769/EEc and Commission Directives 91/155/EEC, 93/105/EC and 2000/21/EC, including amendments.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures , amending and repealing Derectives 67/548/EEC and 1999/45/EC, and amending Regulation(EC) No 1907/2006 with amendments.

15.2 Chemical safety assessment

No chemical safety assessment has been carried out

16. SECTION OTHER INFORMATION

The following phrases represent the posted R phrases / H phrases, Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

Relevant hazard phrases

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H400 - Very toxic to aquatic life.

H410 - Very toxic to aquatic life with long lasting effects.

H318-risk of serious damage to eyes

H413- may cause long-term adverse effects in the aquatic enviroment.

H361-possible risk of impaired fertility or possible risk of harm to the unborn.

H411- toxic to aquatic life with long lasting effects.

Asp. Tox. — Aspiration hazard

STOT SE — Specific target organ toxicity - single exposure - narcotic effects

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Eye Dam.-serious eye damage

Skin Irrit.-Skin Irritation

Aquatic Acute- Hazardous to the aquatic environment-acute

Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level AOX Adsorbable organic halogen compounds approx. approximately

Art., Art. no. Article number

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ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany) BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany) BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation) BHT Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK) BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes) dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community
ECHA European Chemicals Agency EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America) ERC Environmental Release Categories
ES Exposure scenario etc. et cetera
EU European Union
EWC European Waste Catalogue Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code) IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods incl. including, inclusive
IUCLID International Uniform Chemical Information Database LC lethal concentration
LC50 lethal concentration 50 percent kill LCLo lowest published lethal concentration LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level LOEC Lowest Observed Effect Concentration LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America) NOAEC No Observed Adverse Effective Concentration

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NOAEL No Observed Adverse Effect Level NOEC No Observed Effect Concentration NOEL No Observed Effect Level

ODP Ozone Depletion Potential

OECD Organisation for Economic Co-operation and Development org. organic

PAH polycyclic aromatic hydrocarbon PBT persistent, bioaccumulative and toxic PC Chemical product category

PE Polyethylene

PNEC Predicted No Effect Concentration POCP Photochemical ozone creation potential ppm parts per million

PROC Process category PTFE Polytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature SAR Structure Activity Relationship

SU Sector of use

SVHC Substances of Very High Concern Tel. Telephone

ThOD Theoretical oxygen demand TOC Total organic carbon

TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances) UN RTDG

United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization wwt wet weight

Information Sources: The Classification and Labeling of Petroleum Substances to the EU Dangerous Substance Directive. Information from raw material suppliers.

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of product. Receiver of our product is responsible for that applicable laws and regulations are being followed.