SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

febi 24704 hydraulic fluid
Article number 24704

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

1.2.1 Relevant uses

Hydraulics oil

1.2.2 Uses advised against

For all uses not specified in SECTION 1.2.1

1.3 Details of the supplier of the safety data sheet

Company

Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 47
58256 Ennepetal / GERMANY
Phone +49 2333 911-0
Fax +49 2333 911-444
Homepage www.febi.com
E-mail info@febi.com

Address enquiries to

Technical information info@febi.com

Safety Data Sheet info@febi.com

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (english)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is required to be labelled in accordance with EC-Directives.

Hazard pictograms

Hazard statements H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P273 Avoid release to the environment.
P501 Dispose of contents / container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Special labelling Contains: Tolutriazol Derivate, 3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid. EUH208 May produce an allergic reaction.

2.3 Other hazards

none

Physico-chemical hazards No particular hazards known.

Human health dangers If swallowed or in the event of vomiting, risk of product entering the lungs.
Frequent persistent contact with the skin can cause skin irritation.

Environmental hazards Does not contain any PBT or vPvB substances.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
35 - < 40	Distillates (petroleum), hydrotreated light naphthenic
	CAS: 64742-53-6, EINECS/ELINCS: 265-156-6, EU-INDEX: 649-466-00-2
	GHS/CLP: Asp. Tox. 1: H304
10 - < 15	Distillates (petroleum), hydrotreated light paraffinic
	CAS: 64742-55-8, EINECS/ELINCS: 265-158-7, EU-INDEX: 649-468-00-3, Reg-No.: 01-2119487077-29-xxxx
	GHS/CLP: Asp. Tox. 1: H304
10 - < 15	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
	CAS: 72623-87-1, EINECS/ELINCS: 276-738-4, EU-INDEX: 649-483-00-5
	GHS/CLP: Asp. Tox. 1: H304
< 1	2,6-di-tert-butylphenol
	CAS: 128-39-2, EINECS/ELINCS: 204-884-0, Reg-No.: 01-2119490822-33-XXXX
	GHS/CLP: Skin Irrit. 2: H315 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410
< 1	Tolutriazol Derivate
	EINECS/ELINCS: 939-700-4, Reg-No.: 01-2119982395-25-XXXX
	GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410
< 1	3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid
	CAS: 268567-32-4, EINECS/ELINCS: 434-070-2, Reg-No.: 01-2119658068-31-XXX
	GHS/CLP: Eye Dam. 1: H318 - Skin Sens. 1: H317 - Aquatic Chronic 3: H412

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Change soaked clothing.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek for medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion Seek medical advice immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
If swallowed or in the event of vomiting, risk of product entering the lungs.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, dry powder, water spray jet, carbon dioxide.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)
Sulphur oxides (SOx).

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product.
Forms slippery surfaces with water.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. general-purpose binder).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid formation of aerosols.

Fire class (DIN EN 2): B
Do not smoke.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Cloths contaminated with product should not be kept in trouser pockets.
Use barrier skin cream.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.

Keep container tightly closed.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance
10 - < 15	Distillates (petroleum), hydrotreated light paraffinic
	CAS: 64742-55-8, EINECS/ELINCS: 265-158-7, EU-INDEX: 649-468-00-3, Reg-No.: 01-2119487077-29-xxxx
	Long-term exposure: 5 mg/m³, ACGIH TLV (OIL MIST)

DNEL

Range [%]	Substance
< 1	3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid, CAS: 268567-32-4
	Industrial, inhalative, Long-term - systemic effects: 2,4 mg/m³ (AF=75).
	general population, oral, Long-term - systemic effects: 0,2 mg/kg bw/d (AF=600).
	general population, dermal, Long-term - systemic effects: 0,2 mg/kg bw/d (AF=600).
	general population, inhalative, Long-term - systemic effects: 0,6 mg/m³ (AF=150).
< 1	Tolutriazol Derivate
	Industrial, dermal, Long-term - systemic effects: 0,4 mg/kg bw/d.
	Industrial, inhalative, Long-term - systemic effects: 1,3 mg/m³.
	general population, inhalative, Long-term - systemic effects: 0,3 mg/m³.
	general population, oral, Long-term - systemic effects: 0,2 mg/kg bw/d.
	general population, dermal, Long-term - systemic effects: 0,2 mg/kg bw/d.

PNEC

Range [%]	Substance
< 1	3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid, CAS: 268567-32-4
	soil, 2,39 mg/kg dw.
	sediment (seaater), 1,21 mg/kg dw.
	sediment (freshwater), 12,1 mg/kg dw.
	sewage treatment plants (STP), 10 mg/l.
	seawater, 0,0038 mg/l.
	freshwater, 0,038 mg/l.
< 1	Tolutriazol Derivate
	sewage treatment plants (STP), 0,69 mg/l.
	seawater, 0,0000976 mg/l.
	freshwater, 0,000976 mg/l.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	If there is a risk of splashing: Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,11 mm: Nitrile rubber, >480 min (EN 374).
Skin protection	Light protective clothing.
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin.
Respiratory protection	Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, combination filter A-P1.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	See SECTION 6+7.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	green-yellow
Odor	characteristic
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not determined
Flash point [°C]	> 90 (ISO 2592)
Flammability (solid, gas) [°C]	not determined
Lower explosion limit	~0,6 Vol. %
Upper explosion limit	~6,5 Vol. %
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	< 0,01 (20°C)
Density [g/ml]	~0,86 (DIN 51757) (15 °C / 59,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	> 20,5 mm²/s (40°C) (DIN 51562/T1)
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	<-51 (ISO 3016)
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	> 300

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
35 - < 40	Distillates (petroleum), hydrotreated light naphthenic, CAS: 64742-53-6
	LD50, dermal, Rabbit: > 2000 mg/kg.
	LD50, oral, Rat: > 5000 mg/kg.
< 1	3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid, CAS: 268567-32-4
	LD50, dermal, Rat: > 2000 mg/kg bw.
	LD50, oral, Rat: > 2000 mg/kg bw.
10 - < 15	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
	LD50, dermal, Rabbit: >= 2000 mg/kg (OECD 402).
	LD50, oral, Rat: >= 5000 mg/kg (OECD 401).
	LC50, inhalative, Rat: >= 5,53 mg/l (OECD 403).
< 1	Tolutriazol Derivate
	LD50, oral, Rat: > 2000 mg/kg.

Serious eye damage/irritation	not determined
Skin corrosion/irritation	not determined
Respiratory or skin sensitisation	not determined
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	not determined
Reproduction toxicity	not determined
Carcinogenicity	not determined
General remarks	Frequent persistent contact with the skin can cause skin irritation.
	No classification on the basis of the calculation procedure of the preparation directive. Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
< 1	3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid, CAS: 268567-32-4
	LC50, (96h), fish: 54 mg/l.
	EC50, (48h), Daphnia magna: 53 mg/l.
10 - < 15	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
	LC50, (96h), fish: > 100 mg/l (OECD 203).
	EC50, (48h), Crustacea: > 100 mg/l (OECD 202).
	ErC50, (72h), Algae: > 100 mg/l (OECD 201).
< 1	Tolutriazol Derivate
	LC50, (96h), fish: 1,3 mg/l.
	EC50, (72h), Algae: 0,976 mg/l.
	EC50, (48h), Daphnia magna: 2,05 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	not determined

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

No classification on the basis of the calculation procedure of the preparation directive.
Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment or into the drainage.
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the disposal contractor/authorities if necessary.
Disposal in an incineration plant in accordance with the regulations of the local authorities.
In according to RoHS!

Waste no. (recommended) 130205* mineral-based non-chlorinated engine, gear and lubricating oils

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	no
- VOC (1999/13/CE)	0%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H410 Very toxic to aquatic life with long lasting effects.
H400 Very toxic to aquatic life.
H315 Causes skin irritation.
H412 Harmful to aquatic life with long lasting effects.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H304 May be fatal if swallowed and enters airways.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure	Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)

Modified position	SECTION 3 been added: 2,6-di-tert-butylphenol
	SECTION 3 been added: Tolutriazol Derivate
	SECTION 3 been added: 3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid
	SECTION 3 been added: Distillates (petroleum), hydrotreated light paraffinic
	SECTION 3 been added: Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
	SECTION 3 been added: Distillates (petroleum), hydrotreated light naphthenic
	SECTION 2 been added: H412 Harmful to aquatic life with long lasting effects.
	SECTION 2 been added: Aquatic Chronic 3
	SECTION 2 been added: The product is required to be labelled in accordance with EC-Directives.