

Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 1 / 13

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

1.1 Product identifier

febi 33889 automatic transmission fluid (ATF) Article number: 33889, 100706, 100707, 108991 UFI: RJU0-M3T6-K005-0J97

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

1.2.1 Relevant uses

Lubricant

1.2.2 Uses advised against

None known.

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

info@febi.com

1.4 Emergency telephone number

Address enquiries to Technical information

Safety Data Sheet

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

 Company
 +49 2333 911-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

2.2 Label elements

Hazard pictograms

The product is required to be labelled in accordance with regulation CLP.



disposal.

Signal wordDANGERContains:Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-basedHazard statementsH304 May be fatal if swallowed and enters airways.Precautionary statementsP101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor.
P331 Do NOT induce vomiting.
P405 Store locked up.
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

2.3 Other hazards

Human health dangers	If swallowed or in the event of vomiting, risk of product entering the lungs.
Environmental hazards	Does not contain any PBT or vPvB substances.
Other hazards	No particular hazards known.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
50 - 100	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
	CAS: 72623-87-1, EINECS/ELINCS: 276-738-4, EU-INDEX: 649-483-00-5, Reg-No.: 01-2119474889-13-XXXX
	GHS/CLP: Asp. Tox. 1: H304
0,1 - < 0,25	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol
	CAS: 1218787-32-6, EINECS/ELINCS: 620-540-6, Reg-No.: 01-2119510877-33-XXXX
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1C: H314 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M-Factor (acute): 10
0,01 - < 0,1	N,N-Dimethyl-n-octadecylamine
	CAS: 124-28-7, EINECS/ELINCS: 204-694-8, Reg-No.: 01-2119486676-20
	GHS/CLP: Skin Corr. 1B: H314 - Acute Tox. 4: H302 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410
0,01 - < 0,1	3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
	EINECS/ELINCS: 939-485-7, Reg-No.: 01-2119974116-35
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1B: H314 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410

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: see SECTION 16.

SECTION 4: First aid measures

Description of first aid measures 4.1 **General information** Change soaked clothing. Inhalation Ensure supply of fresh air. In the event of symptoms seek 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 Do not induce vomiting. Consult a doctor immediately. 4.2 Most important symptoms and effects, both acute and delayed Headache Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

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

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.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 3 / 13

5.2	Special hazards arising from the substance or mixture		
		Risk of formation of toxic pyrolysis products.	
		Carbon monoxide (CO)	
		Nitrogen oxides (NOx).	
5.3	Advice for firefighters		
		Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus.	
		Collect contaminated firefighting water separately, must not be discharged into the drains. Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.	
SEC	TION 6: Accidental release measu	res	
6.1	Personal precautions, protective	equipment and emergency procedures	
		Some risk of slipping due to 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. Do not discharge into the subsoil/soil.	
		In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.	
6.3	Methods and material for contain	nment and cleaning up	
		Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth). Dispose of absorbed material in accordance within the regulations.	
6.4	Reference to other sections	See SECTION 8+13	
		See SECTION 6+13	
SEC	TION 7: Handling and storage		
7.1	Precautions for safe handling		
		Avoid formation of aerosols. Use only in well-ventilated areas.	
		Keep away from sources of ignition - refrain from smoking. Ignitable mixtures can be formed in the empty container.	
		Do not eat, drink or smoke when using this product. After worktime and before work breaks the affected skin areas must be thoroughly cleaned. Use barrier skin cream. Cloths contaminated with product should not be kept in trouser pockets.	
		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, inclu	uding any incompatibilities	
		Keep only in original tightly closed container. Prevent penetration into the ground.	
		Do not store together with food and animal food/diet.	
		Keep container in a well-ventilated place. Protect from heat/overheating and from sun.	
7.3	Specific end use(s)		
		See product use, SECTION 1.2	



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10

Page 4 / 13

SECTION 8: Exposure controls / personal protection

Control parameters 8.1

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

DNEL

N,N-Dimethyl-n-octadecylamine, CA	S: 124-28-7
Industrial, inhalative, Acute - local eff	ects, 1 mg/m ³
Industrial, inhalative, Long-term - sys	temic effects, 1 mg/m ³
Industrial, inhalative, Long-term - loc	al effects, 1 mg/m ³
general population, oral, Long-term -	systemic effects, 0.5 mg/kg bw/d (AF=100)
Lubricating oils (petroleum), C20-50,	hydrotreated neutral oil-based, CAS: 72623-87-1
Industrial, inhalative, Long-term - sys	temic effects, 2.73 mg/m ³
Industrial, inhalative, Long-term - loc	al effects, 5.58 mg/m³
Industrial, dermal, Long-term - syster	nic effects, 970 μg/kg bw/day
general population, inhalative, Long-	erm - systemic effects, 740 μg/kg bw/day
general population, inhalative, Long-	erm - local effects, 1.19 mg/m ³
2,2'-(C16-18 (evennumbered, C18 ur	saturated) alkyl imino) diethanol, CAS: 1218787-32-6
Industrial, inhalative, Long-term - sys	temic effects, 2.112 mg/m ³
Industrial, dermal, Long-term - syster	nic effects, 0.3 mg/kg bw/day
general population, oral, Long-term -	systemic effects, 0.214 mg/kg bw/day
general population, dermal, Long-ter	n - systemic effects, 0.214 mg/kg bw/day
general population, inhalative, Long-	erm - systemic effects, 0.745 mg/m ³
3-((C9-11-iso,C10-rich)alkyloxy)propa	n-1-amine
Industrial, dermal, Long-term - system	nic effects, 0.7 mg/kg bw/d (AF= 100)
Industrial, inhalative, Long-term - sys	temic effects, 4.9 mg/m ³ (AF= 25)
general population, inhalative, Long-	erm - systemic effects, 0.74 mg/m ³ (AF= 50)

PNEC

Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
sediment (freshwater), 1.25 mg/kg dw (AF=50)
freshwater, 0.26 µg/L (AF= 10)
sewage treatment plants (STP), 130 µg/L (AF= 100)
sediment (seawater), 0.125 mg/kg dw (AF=500)
soil, 1 mg/kg dw (AF=10)
seawater, 0.03 µg/L (AF= 100)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
oral (food), 9.33 mg/kg food
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
freshwater, 0.214 µg/L
oral (food), 2 mg/kg food
soil, 5 mg/kg soil dw
sediment (seawater), 0.169 mg/kg sediment dw
sediment (freshwater), 1.692 mg/kg sediment dw



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 5 / 13

sewage treatment plants (STP), 1500 µg/L
seawater, 0.021 µg/L
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
seawater, 0.084 µg/L (AF= 500)
freshwater, 0.84 µg/L (AF= 50)
sewage treatment plants (STP), 1.3 mg/L (AF= 10)
sediment (freshwater), 3.19 mg/kg dw (AF= 1)
sediment (seawater), 0.32 mg/kg dw (AF= 10)
soil, 1.59 mg/kg dw (AF= 1)

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,4 mm: Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	light protective clothing
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Do not inhale gases/vapours/aerosols. Avoid contact with eyes and skin.
Respiratory protection	No special measures necessary.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 6 / 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	blue
Odor	characteristic
Odour threshold	No information available.
pH-value	No information available.
pH-value [1%]	No information available.
Boiling point [°C]	not applicable
Flash point [°C]	190 (EN ISO 2592) (COC)
Flammability (solid, gas) [°C]	No information available.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/cm³]	0,84 15°C (DIN 51757)
Relative density	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	virtually insoluble
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	No information available.
Kinematic viscosity	18 mm²/s 40°C (DIN 51562)
Relative vapour density	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature	not applicable
Decomposition temperature [°C]	No information available.
Particle characteristics	No information available.
Other information	

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with acids and strong oxidizing agents.

10.4 Conditions to avoid

Strong heating.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 7 / 13

10.5 Incompatible materials

Oxidizing agent Acids Strong basic compounds

10.6 Hazardous decomposition products

No hazardous decomposition products known.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

SECTION 11: Toxicological information

Product

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

oral, Based on the available inform	ation, the classification	criteria are not fulfilled.

Substance	
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7	
LD50, oral, Rat, >2000 mg/kg bw (OECD 401)	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1	
LD50, oral, Rat, 5000 mg/kg bw	
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6	
LD50, oral, Rat, 1500 mg/kg bw (OECD 425)	
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine	
LD50, oral, Rat, 300 - 2000 mg/kg bw	

Acute dermal toxicity

Product
dermal. Based on the available information, the classification criteria are not fulfilled.

Substance

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1 LD50, dermal, Rabbit, 2000 - 5000 mg/kg bw

Acute inhalational toxicity

Product
inhalative, Based on the available information, the classification criteria are not fulfilled.

 Substance

 Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1

 LC50, inhalative, Rat, 2.18 - 5.53 mg/L air, 4h

Serious eye damage/irritation	Based on the available information, the classification criteria are not fulfilled.
Skin corrosion/irritation	Based on the available information, the classification criteria are not fulfilled.
Respiratory or skin sensitisation	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — single exposure	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — repeated exposure	Based on the available information, the classification criteria are not fulfilled.

Substance	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1	
NOAEL, dermal, Rat, 30 - 2000 mg/kg bw/day	
NOAEC, inhalative, Rat, 980 mg/m ³ air	
LOAEL, oral, Rat, 125 mg/kg bw/day	
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6	
NOAEL, oral, Dog, 13 mg/kg bw/day	

Based on the available information, the classification criteria are not fulfilled.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022 Version 11. Supersedes version: 10 Page 9 / 13 **Reproduction toxicity** Based on the available information, the classification criteria are not fulfilled. Based on the available information, the classification criteria are not fulfilled. Carcinogenicity Aspiration hazard Based on the available information, the classification criteria are fulfilled. May be fatal if swallowed and enters airways. On basis of test data General remarks 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. 11.2 Information on other hazards Endocrine disrupting properties No information available. Other information none

SECTION 12: Ecological information

12.1 Toxicity

Product
Pasad on the quailable information, the algoritization aritaria are not fulfilled
Based on the available information, the classification criteria are not fulfilled.

Substance
N,N-Dimethyl-n-octadecylamine, CAS: 124-28-7
LC50, (96h), Oncorhynchus mykiss, 0,18 mg/l (OECD 203)
EC10, (72h), Desmodesmus subspicatus, 4,31 µg/l (OECD 201)
EC10, (48h), Daphnia magna, 0,593 mg/l (OECD 202)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, CAS: 72623-87-1
NOELR, (14d), fish, 1 g/L
LL50, (4d), Invertebrates, 10 g/L
LL50, (4d), fish, 100 mg/L
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol, CAS: 1218787-32-6
LC50, (24h), Danio rerio, >0.29 mg/L (OECD 203)
EC50, (24h), Daphnia magna, 0.21 mg/L (OECD 202)
EC10, (72h), Daphnia magna, 34.1 μg/L (OECD 201)
EC10, (21d), Daphnia magna, 10.7 μg/L (OECD 211)
3-((C9-11-iso,C10-rich)alkyloxy)propan-1-amine
LC50, (96h), fish, 2.14 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.



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

No information available.

12.7 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.

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.

		In according to RoHS! Coordinate disposal with the authorities if necessary.
	Waste no. (recommended)	130208*
	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* packaging containing residues of or contaminated by hazardous substances 150102 150104
SEC	TION 14: Transport information	
14.1	UN number or ID number	
	Transport by land according to ADR/RID	not applicable
	Inland navigation (ADN)	not applicable
	Marine transport in accordance with IMDG	not applicable
	Air transport in accordance with IATA	not applicable
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"



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 11 / 13

14.3	Transport hazard class(es)	
	Transport by land according to ADR/RID	not applicable
	Inland navigation (ADN)	not applicable
	Marine transport in accordance with IMDG	not applicable
	Air transport in accordance with IATA	not applicable
14.4	Packing group	
	Transport by land according to ADR/RID	not applicable
	Inland navigation (ADN)	not applicable
	Marine transport in accordance with IMDG	not applicable
	Air transport in accordance with IATA	not applicable
14.5	Environmental hazards	
	Transport by land according to ADR/RID	no
	Inland navigation (ADN)	no
	Marine transport in accordance with IMDG	no
	Air transport in accordance with IATA	no
14.6	Special precautions for user	
	Relevant information under SECTION 6 t	to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture		regulations/legislation specific for the substance or mixture
	EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
	TRANSPORT-REGULATIONS	ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2022)
	NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
	- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
	- VOC (2010/75/CE)	not applicable



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

15.2 Chemical safety assessment	
	For this product a chemical safety assessment has not been carried out.
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. H314 Causes severe skin burns and eye damage. H302 Harmful if swallowed. 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 = Réglement concernant le transport international ferroviaire de marchandises dangereuses ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure ATE = accute toxicity estimate CAS = Chemical Abstracts Service CLP = Classification, Labelling and Packaging DMEL = Derived Minimum Effect Level DNEL = Derived Nimimum Effect Level ECS0 = Median effective concentration CEB = European Chemicals Bureau EEC = European Economic Community EINECS = European Inventory of Existing Commercial Chemical Substances ELS0 = Median effective loading ELINCS = European List of Notified Chemical Substances EMS = Emergency Schedules 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 ICS0 = Inhibition concentration, 50% IMDG = International Uniform ChemicaL Information Database IVIS = In vitro irritation score LCS0 = Lethal concentration, 50% LDG1 = International Uniform ChemicaL Information Database IVIS = In vitro irritation score LCS0 = Lethal concentration, 50% LDG2 = Indeminal Code of the Prevention of Marine Pollution from Ships NOAEL = No Observed Adverse Effect Level NOEC = No Observed Effect Concentration REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals STP = Sewage Treatment Plant TLV®/TWA = Threshold limit value – time-weighted average TLV®/TWA = Threshold limit value – short-ime exposure limit VOC = Volatile Organic Compounds vPvB = very Persistent and very Bioaccumulative
16.3 Other information	

Classification procedure

Modified position

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (On basis of test data)

none



Ferdinand Bilstein GmbH + Co. KG

Date printed 09.02.2022, Revision 09.02.2022

Version 11. Supersedes version: 10 Page 13 / 13