

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Important Note: As a solid, manufactured article, exposure to hazardous ingredients is not expected with normal use. This battery is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement. The information contained in this Safety Data Sheet contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Commercial Product Name: Flex BRANDED LITHIUM-ION BATTERY

Model Number: 5172.1, AP 18.0/2.5; 5173.2, AP 18.0/5.0; 5172.1, AP 18.0/2.5-US; 5173.2, AP 18.0/5.0-US

Use of the substance/preparation: Lithium-ion batteries

Synonyms: Lithium-ion Battery, Lithium-ion Battery Pack, Li-Ion Battery, Li-Ion Battery Pack

Manufacturer: Nanjing Chervon Industry Co., Ltd.

Address: 159 South Jiang Jun Rd. Jiangning Economic & Technical Development Zone
Nanjing, Jiangsu 211106 P. R. China

Company/undertaking Identification: 1-352-323-3500 international (Account number: 109087)

Further Information:

Battery-System: Lithium-ion (Li-ion)

Nominal Voltage: 18V

Rated Capacity: 2.5Ah (5172.1, AP 18.0/2.5), 5.0Ah (5173.2, AP 18.0/5.0), 2.5Ah (5172.1, AP 18.0/2.5-US), 5.0Ah (5173.2, AP 18.0/5.0-US),

Wh Rating: 45Wh (5172.1, AP 18.0/2.5), 90Wh (5173.2, AP 18.0/5.0), 45Wh (5172.1, AP 18.0/2.5-US), 90Wh (5173.2, AP 18.0/5.0-US)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Preparation Hazards and Classification: The product is a Lithium ion cell or battery and is therefore classified as an article and is not hazardous when used according to the recommendations of the manufacturer. The hazard is associated with the contents of the cell or battery. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive provided that the cell or battery integrity remains and the seals remain intact. The potential for exposure should not exist unless the cell or battery leaks, is exposed to high temperatures or is mechanically, electrically or physically abused/damaged. If the cell or battery is compromised and starts to leak, based upon the battery ingredients, the contents are classified as Hazardous.

Hazard Summary

Physical hazards: Not classified for physical hazards.

Health hazards: Not classified for health hazards.

Environmental hazards: Not classified for hazards to the environment.

Specific hazards: Exposure to contents of an open or damaged cell or battery: contact with this material will cause burns to the skin, eyes and mucous membranes. May cause sensitization by skin contact.

Main Symptoms: Symptoms include itching, burning, redness and tearing.

Hazardous Materials Information Label (HMIS)

Health: 0

Flammability: 1

Physical Hazard: 0

NFPA Hazard Ratings

Health: 0

Flammability: 1

Reactivity: 0

Unique Hazard:

Labeling:

If the cell or battery is compromised and starts to leak, based upon the battery ingredients, the contents are classified as Hazardous

Symbol:



Signal word: Danger

GHS precautionary statements

Precautionary Statement(s) Prevention	P102: Keep out of reach of children. P103: Read label prior to use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking. P234: Keep only in original container. P254: Wash hands thoroughly after handling.
Response (If cell/battery leaks)	P260: Do not breathe vapor or spray. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301/330/331: IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. P303/361/353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304/340: If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305/351/338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER or doctor/physician. P363: Wash contaminated clothing before reuse.

	P370: In case of fire: Use carbon dioxide, dry chemical or water extinguisher.
Storage (Store as indicated in Section 7)	P402: Store in a dry place. P405: Store locked up. P410: Protect from sunlight. P410: Protect from sunlight.
Disposal	P406: Store any spilled/leaking electrolyte material in a corrosive resistant container with a resistant inner liner. P501: Dispose of batteries in accordance with applicable hazardous waste regulations.

Other Hazards

Appearance, Color and Odor: Solid object with no odor.

Primary Route(s) of Exposure: These chemicals are contained in a sealed enclosure. Risk of exposure occurs only if the cell or pack is mechanically, thermally, electrically or physically abused to the point of compromising the enclosure.

If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, eye contact and skin contact.

Potential Health Effect(s):

Acute (short term): see Section 8 for exposure controls.

In the event that this cell or pack has been ruptured, the electrolyte solution contained within the cell would be corrosive and can cause burns to skin and eyes.

Inhalation: Inhalation of materials from a sealed cell is not an expected route of exposure. Vapors or mists from a ruptured cell may cause respiratory irritation.

Ingestion: Swallowing of materials from a sealed cell is not an expected route of exposure. Swallowing the contents of an open cell can cause serious chemical burns to mouth, esophagus, and gastrointestinal tract.

Skin: Contact between the cell and skin will not cause any harm. Skin contact with the contents of an open cell can cause severe irritation or burns to the skin.

Eye: Contact between the cell and the eye will not cause any harm. Eye contact with the contents of an open cell can cause severe irritation or burns to the eye.

CHRONIC (long term): see Section 11 for additional toxicological data.

Interactions with other chemicals: Immersion in high conductivity liquids may cause corrosion and breaching of the cell or battery enclosure. The electrolyte solution inside of the cells may react with alkaline (basic) materials and present a flammability hazard.

Potential Environmental Effects: Not Available.

3. Composition/information on ingredients

The battery pack contains different quantity battery cells in it depending on the battery pack capacity.

Battery Pack Model Number	Quantity of the Battery Cells	Net Weight of Battery Pack
5172.1, AP 18.0/2.5	5	0.4kg
5173.2, AP 18.0/5.0	10	0.7kg
5172.1, AP 18.0/2.5-US	5	0.4kg
5173.2, AP 18.0/5.0-US	10	0.7kg

Below mass range in the last column represents the content of ingredients in one battery cell.

Hazardous components	Chemical Name	CAS No.	*Mass range in cell (g/g %)
Electrolyte	Contains Electrolyte salt and solvents.		5-20
Electrolyte salt	Lithium hexafluorophosphate	21324-40-3	0.05-5
Electrolyte solvent	Includes one or more of the following: Ethylene Carbonate Propylene Carbonate Diethyl Carbonate Ethyl propionate	96-49-1 108-32-7 105-58-8 105-37-3	5-20
PVDF	Polyvinylidene fluoride	24937-79-9	<1
Copper	Cu	7440-50-8	3-15
Aluminum	Al	7429-90-5	2-10
Cathode	Lithium cobalt oxide	12190-79-3	20-50
Anode	Graphite	7782-42-5	10-30
Steel, Nickel, and inert components		Various	Balance

Because of the cell structure the dangerous ingredients will not be available if used properly. During charge process a lithium graphite intercalation phase is formed.

4. FIRST-AID MEASURES

Description of first aid measures

The hazardous components of this cell or battery are contained within a sealed unit. The following measures are only applicable if exposure has occurred to components when a cell or battery leaks, is exposed to high temperatures or is mechanically, electrically or physically abused/damaged. The hazardous contents are caustic alkaline electrolytes contained in cells with lithium metal oxide cathodes, graphite and carbon anodes and Polyvinylidene fluoride binders.

Ingestion: Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Quickly transport victim to an emergency care facility.

EYE: If eye contact with contents of an open cell occurs, immediately flush the contaminated eye(s) with water. Quickly transport victim to an emergency care facility.

Skin Contact: Immediately flush with water. If irritation or pain persists, seek medical attention.

Inhalation: Remove the patient from exposure into fresh air, seek medical attention.

PROTECTION FOR FIRST

AIDERS: Do not enter corrosive vapor contaminated areas without a respirator or Self Contained Breathing Apparatus. Wear adequate personal protective equipment as indicated in Section 8.

FIRST AID FACILITIES: Eye wash bottle, fountain, safety showers or at least a source of running water are required in the area where the product is used.

Most important symptoms & effects, acute & delayed, caused by exposure:

ACUTE: The contents of the battery are rated as corrosive. Ingestion of the electrolyte could lead to severe gastrointestinal tract irritation with nausea, vomiting and potentially burns. Inhalation of vapors may lead to

severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing. Eye contact may lead to severe eye irritation or in worst case scenario irreversible damage and possible eye burns. Skin contact may lead to irritation and possible skin burns.

CHRONIC: Skin contact may aggravate/exacerbate existing skin conditions, such as dermatitis. Chronic inhalation may lead to the same symptoms as listed for acute inhalation above.

Indication of any immediate medical attention and special treatment needed

ADVICE TO DOCTOR: Treat symptomatically if the person comes into contact with the corrosive electrolyte liquid contents of a damaged battery.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Cold water and dry powder in large amount are applicable. Use metal fire extinction powder or dry sand if only few cells are involved.

Special hazards arising from the chemical

May form hydrofluoric acid if electrolyte comes into contact with water. In case of fire, the formation of the following flue gases cannot be excluded: Hydrogen fluoride (HF), Carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit.

Additional information

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent. Cell is not flammable but internal organic material will burn if the cell is incinerated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed areas before entering. Wear adequate personal protective equipment as indicated in Section 8.

Environmental precautions

Absorb spilled material with non-reactive absorbent such as vermiculite, clay or earth. Prevent from migration into soil, sewers and natural waterways – inform local authorities if this occurs.

Methods and material for containment and cleaning up

Evacuate spill area immediately and remove sources of ignition. Do NOT touch spilled material. Cleanup personnel must be trained in the safe handling of this product. Spills may be absorbed on non-reactive absorbents such as vermiculite. Place cells or batteries into individual plastic bags and then place into appropriate containers and close tightly for disposal. Ensure that cleanup procedures do not expose spilled material to any moisture. Immediately transport closed containers outside. Lined steel drums are suitable for storage of damaged cells or batteries until proper disposal can be arranged.

7. HANDLING AND STORAGE

Precaution for Handling

Avoid short circuiting the cell. Avoid mechanical damage of the cell. Do not open or disassemble.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Condition for storage

Storage at room temperature (approx. 20°C) at approx. 20~60% of the nominal capacity (OCV approx. 3.6 - 3.9 V/cell). Keep in closed original container.

8. Exposure controls/personal protection Exposure limit values Exposure limits

Exposure Control Measures

Exposure Limit Values: Airborne exposures to hazardous substances are not expected when the cells or batteries are used for their intended purposes. Exposure standards are not applicable to the sealed articles.

Biological Monitoring: Not applicable.

Control Banding: Not applicable.

Recommended monitoring procedures: Follow standard monitoring procedures.

Derived no-effect level (DNEL): Not applicable.

Derived minimal effect level (DMEL): Not applicable.

Predicted no-effect concentrations (PNECs): Not applicable.

Engineering Controls

Engineering Controls: Special ventilation is not required when using these products in normal use scenarios. Ventilation is required if there is leakage from the cell or battery.

Individual Protection Measures

Eye and Face protection: Eye protection is not required when handling cells or batteries during normal use. Wear safety glasses/goggles if handling a leaking or ruptured cell or battery.

Skin (Hand) protection: Hand protection is not required when handling the cell or battery during normal use. PVC gloves are recommended when dealing with a leaking or ruptured cell or battery.

Skin (clothing) protection: Skin protection is not required when handling the cell or battery during normal use. Wear long sleeved clothing to avoid skin contact if handling a leaking or ruptured cell or battery. Soiled clothing should be washed with detergent prior to re-use.

Respiratory protection: During routine operation, a respirator is not required. However, if dealing with an electrolyte leakage and irritating vapors are generated, an approved half face inorganic vapor and gas/acid/particulate respirator is required.

Thermal Protection: Not applicable.

Other Protective Equipment: Have a safety shower or eye wash station readily available

Hygiene Measures: Do not eat, drink or smoke in work areas. Avoid storing food, drink or tobacco near the product. Practice and maintain good housekeeping.

Environmental exposure controls: Avoid release to the environment.

9. Physical and Chemical Properties

Appearance

physical state,: Solid

Color: Various

Odor: Odorless

Important health, safety and environmental information

Test method

PH Value: n.a.
Flash point: n.a

Lower explosion limits: n.a.
Vapour pressure: n.a.
Density: n.a.
Water solubility: Insoluble
Ignition temperature: n.a.

10. STABILITY AND REACTIVITY

Stability

Stable

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Do not puncture, crush or incinerate.

Materials to avoid

No materials to be especially mentioned.

Hazardous decomposition products

In case of open cells, there is the possibility of hydrofluoric acid and carbon monoxide release.

Possibility of Hazardous Reactions

Will not occur

Additional information

No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

The hazardous components of the cell or battery are contained within a sealed unit. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive provided that the cell or battery integrity remains and the seals remain intact. The potential for exposure should not exist unless the battery leaks, is exposed to high temperature or is mechanically, electrically or physically abused/damaged. **The following toxicology data is in respect to if a person comes into contact with the electrolyte.**

Acute Toxicity:

Swallowed: The electrolyte contained within the cell or battery is a corrosive liquid. Ingestion of this electrolyte

would be harmful. Swallowing may result in nausea, vomiting, diarrhea, abdominal pain and chemical burns to the

gastrointestinal tract. During normal usage ingestion should not be a means of exposure.

Eye: The electrolyte contained within the cell or battery is a corrosive liquid and it is expected that it would cause irreversible damage to the eyes. Contact may cause corneal burns. Effects may be slow to heal after eye contact. Correct handling procedures incorporating appropriate eye protection should minimize the risk of eye irritation.

Skin: The electrolyte contained within the cell or battery is a corrosive liquid and it is expected that it would cause skin burns or severe irritation to the skin if not washed off immediately. Correct handling procedures

should minimize the risk of skin irritation. People with pre-existing skin conditions, such as dermatitis, should take extreme care so as not to exacerbate the condition.

Inhaled: Inhalation of vapors from a leaking cell or battery is expected to cause severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing.

Skin Corrosion/Irritation: The electrolyte contained within the cell or battery is classified as a corrosive liquid and is expected to exhibit Dermal Corrosivity/Irritation.

Serious Eye Damage/Irritation: The electrolyte contained within the cell or battery is classified as a corrosive liquid and is expected to exhibit serious Damage/Corrosivity.

Respiratory or Skin Sensitization: The electrolyte contained within the cell or battery is not expected to be a skin sensitizer according to OECD test 406, based on the available data and the known hazards of the components. The electrolyte contained within the battery is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.

Germ Cell Mutagenicity: The electrolyte contained within the cell or battery is not expected to be mutagenic according to test such as OECD tests 471, 475, 476, 478 and 479, based on the available data and the known hazards of the components.

Carcinogenicity: The electrolyte contained within the cell or battery is not expected to be a carcinogen. The cathode contains Cobalt and Nickel components. These components are classified as IARC 2B – possibly carcinogenic to humans, however they do not pose a threat when contained in the cell or battery sealed unit.

Reproductive Toxicity: The electrolyte contained within the cell or battery is not expected to be a reproductive hazard according to test such as OECD tests 414 and 421, based on the available data and the known hazards of the components.

Specific Target Organ Toxicity (STOT) – Single Exposure: The electrolyte contained within the cell or battery is corrosive and is expected to cause respiratory irritation by inhalation. Inhalation of vapors may lead to severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: The cells or batteries are not expected to cause organ damage from prolonged or repeated exposure according to tests such as OECD tests 410 and 412, based on the available data and the known hazards of the components.

Aspiration Hazard: The cells or batteries are not classified as an aspiration hazard, based on the available data and the known hazards of the components. However, due to the corrosive nature of the product if swallowed, do NOT induce vomiting. If vomiting has occurred after ingestion the person should be observed to ensure that aspiration into the lungs has not occurred and assessed for chemical burns to the gastrointestinal and respiratory tracts.

12. ECOLOGICAL INFORMATION

Further information

Ecological injuries are not known or expected under normal use. Do not flush into surface water or sanitary sewer system.

13. DISPOSAL CONSIDERATION

Advice on disposal

For recycling consult manufacturer.

Contaminated packaging

Disposal in accordance with local regulations

14. TRANSPORT INFORMATION

UN Number: UN 3480

Proper Shipping Name: Lithium ion batteries

Hazard Class: 9

ICAO/IATA (air transportation):

The product shall meet the General Requirements and Packaging Instruction 965 II /965 IB.

IMO (sea transportation):

The product can be treated as "Non-Dangerous Goods" per the special provision 188.

U.S. DOT (ground transportation):

The product can be treated as "Non-Dangerous Goods" per 49 CFR 173.185.

Canada TDG (ground transportation):

The product can be treated as "Non-Dangerous Goods" per TDG Schedule 2, Special Provision 34

European Agreements ADR/RID/ADN (ground transportation):

The product can be treated as "Non-Dangerous Goods" per the special provision 188.

Australian Dangerous Goods ADG: (ground transportation):

The product can be treated as "Non-Dangerous Goods" per the special provision 188.

15. REGULATORY INFORMATION

Canadian Federal Regulations:

These products have been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Not Controlled, manufactured article.

New Substance Notification Regulations: Lithium hexafluorophosphate is listed on the Non-Domestic Substance List (NDSL). All other ingredients in the product are listed, as required, on Canada's Domestic Substances List (DSL).

National Pollutant Release Inventory (NPRI) Substances: These products do not contain any NPRI chemicals.

United States Federal and State Regulations:

TSCA Status: All ingredients in these products are listed on the TSCA inventory.

OSHA: These products do not meet criteria as per Part 1910.1200, manufactured article.

SARA EPA Title III: None.

Sec. 302/304: None.

Sec. 311/312: None.

Sec. 313: None.

CERCLA RQ: None.

Australia and New Zealand

SUSMP: Not applicable

AICS: All ingredients are on the AICS list.

HSNO Approval number: Not applicable

HSNO Group Title: Not applicable

NOHSC:10008 Risk Phrases: R34 - Causes Burns.

NOHSC:1008 Safety Phrases:

S1 – Keep locked up.

S2 – Keep out of reach of children.

S23 – Do not breathe vapor.

S24/25 – Avoid contact with skin and eyes.

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27/28 – After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water.

S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

S56 – Dispose of this material and its container at hazardous waste or special waste collection point.

S62 – If swallowed, DO NOT induce vomiting: seek medical advice immediately and show this container or label.

S64 – If swallowed, rinse mouth with water (Only if the person is conscious).

EC Classification for the Substance/Preparation:

These products are not classified as hazardous according to Regulation (EC) No. 1272/2008.

Keep out of the reach of children.

EU Restrictions on use:

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended: Aluminum (CAS 7429-90-5)

Other EU Regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Japanese Regulations

Japanese Industrial Standards (JIS) JIS Z 7253:2012

Waste disposal and public cleaning law

Law for Promotion of Effective Utilization of Resources

Chinese Regulations

General Rule for Classification and Hazard Communication of Chemicals (GB 13690-2009): Specifies the classification, labeling and hazard communication of chemicals in compliance with the GHS standard for chemical production sites and labeling of consumer goods.

General Rule for Preparation of Precautionary Labels for Chemicals (GB 15258-2009): Specifies the relevant application methods of precautionary labels for chemicals.

Safety Data Sheet for Chemical Products Content and Order of Sections (GB/T 16483-2008)

Taiwanese Regulations

Regulation of Labeling and Hazard Communication of Dangerous and Harmful Materials: Labeling requirements and other relevant provision of chemicals, this product is not classified as dangerous goods.

Toxic Chemicals Substance Control Law: Not Listed.

CNS 1030016 Safety of primary and secondary lithium cells and batteries during transport.

16. OTHER INFORMATION

Further Information

Data of sections 4 to 8, as well as 10 to 12, do not necessarily refer to the use and the regular handling of the product (in this sense consult package leaflet and expert information), but to release of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge. This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations. "(n.a. = not applicable; n.d. = not determined)"

The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.

Issue Date: 2018/2/24

Revision: v2.0

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 1 of 9

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

1.1. Product identifier

P 05/05-LDX

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

Use of the substance/mixture

Automotive care products

1.3. Details of the supplier of the safety data sheet

Company name: FLEX - Elektrowerkzeuge GmbH
 Street: Bahnhofstr. 15
 Place: D-71711 Steinheim
 Telephone: +49(0) 7144 828-0
 e-mail: info@flex-tool.com
 Responsible Department: Telefon: +49(0)7144828-0
 Telefax: +49(0)714425899

1.4. Emergency telephone number:

Giftnotruf München +49 (0)89 - 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

This product has been treated with biocides for preservation.

Precautionary statements

P102 Keep out of reach of children.

Special labelling of certain mixtures

EUH208 Contains mixture of 5-chloro-2-methyl-2H-isothiazol-3-one (EG No. 247-500-7) and 2-methyl-2H-isothiazol-3-one (EG No. 220-239-6) (3:1).. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics			10 - < 15 %
	918-481-9		01-2119457273-39	
	Asp. Tox. 1; H304 EUH066			

Full text of H and EUH statements: see section 16.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 2 of 9

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No special measures are necessary. When in doubt or if symptoms are observed, get medical advice.

After inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a doctor.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam. Dry extinguishing powder. Carbon dioxide (CO₂). Water spray jet. Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

No special measures are necessary.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 3 of 9

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special measures are necessary. Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Advice on protection against fire and explosion

No special fire protection measures are necessary. Only use the material in places where open light, fire and other flammable sources can be kept away.

Further information on handling

Take off contaminated clothing. Wash hands before breaks and after work. When using do not smoke. When using do not eat or drink. Avoid contact with skin, eyes and clothes. Avoid breathing dust/fume/gas/mist/vapours/spray.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed.

Hints on joint storage

Do not store together with: Oxidising agent. Strong acid. Strong alkali.

Further information on storage conditions

Recommended storage temperature: 15-25°C

7.3. Specific end use(s)

Automotive care products

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1344-28-1	Aluminium oxides, respirable dust	-	4		TWA (8 h)	WEL
56-81-5	Glycerol, mist	-	10		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1344-28-1	aluminium oxide			
	Consumer DNEL, long-term	oral	systemic	3,29 mg/kg bw/day
	Worker DNEL, long-term	inhalation	local	15,63 mg/m ³
1344-28-1	aluminium oxide			
	Worker DNEL, long-term	inhalation	local	15,6 mg/m ³
	Consumer DNEL, long-term	oral	systemic	6,2 mg/kg bw/day
56-81-5	glycerol			
	Consumer DNEL, long-term	oral	systemic	229 mg/kg bw/day
	Worker DNEL, long-term	inhalation	local	56 mg/m ³
	Consumer DNEL, long-term	inhalation	local	33 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 4 of 9

PNEC values

CAS No	Substance	Value
Environmental compartment		
1344-28-1	aluminium oxide	
Freshwater		0,0749 mg/l
Micro-organisms in sewage treatment plants (STP)		20 mg/l
1344-28-1	aluminium oxide	
Freshwater		0,0749 mg/l
Micro-organisms in sewage treatment plants (STP)		20 mg/l
56-81-5	glycerol	
Freshwater		0,885 mg/l
Marine water		0,00885 mg/l
Freshwater sediment		3,3 mg/kg
Marine sediment		0,33 mg/kg
Soil		0,141 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Use only in well-ventilated areas.

Protective and hygiene measures

Take off contaminated clothing. Wash hands before breaks and after work. When using do not smoke. When using do not eat or drink. Avoid contact with skin, eyes and clothes. Avoid breathing dust/fume/gas/mist/vapours/spray.

Eye/face protection

Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Tested protective gloves must be worn.

Recommended glove articles: HyFlex® Foam (EN 420, EN 388 (3131)).

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

No special environmental measures are necessary. Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:

Liquid

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 5 of 9

Colour: white
 Odour: characteristic

Test method

pH-Value (at 20 °C): 7,8

Changes in the physical state

Melting point: not determined

Initial boiling point and boiling range: 100 °C

Flash point: 73 °C DIN EN ISO 2719

Flammability

Solid: not applicable

Gas: not applicable

Lower explosion limits: 0,5 vol. %

Upper explosion limits: 7 vol. %

Ignition temperature: >200 °C

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure: 0,6 hPa
 (at 20 °C)

Density (at 20 °C): 1,15 g/cm³

Water solubility: completely miscible

Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: 25000-30000 mPa·s
 (at 20 °C)

Evaporation rate: not determined

Solvent content: 28,09 %

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Only use the material in places where open light, fire and other flammable sources can be kept away.

10.5. Incompatible materials

Strong acid. Strong alkali. Highly oxidising substances.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 6 of 9

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No information available.

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics				
	oral	LD50 >5000 mg/kg	Rat	ECHA	OECD 401
	dermal	LD50 >2000 mg/kg	Rat	ECHA	OECD 402

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Contains mixture of 5-chloro-2-methyl-2H-isothiazol-3-one (EG No. 247-500-7) and 2-methyl-2H-isothiazol-3-one (EG No. 220-239-6) (3:1).. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No information available.

Additional information on tests

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics					
	Acute fish toxicity	LC50 >1000 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA	OECD 203
	Acute algae toxicity	ErC50 >1000 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA	OECD 201
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna (Big water flea)	ECHA	OECD 202

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 7 of 9

12.2. Persistence and degradability

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics			
	OECD 301 F	80%	28	ECHA
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
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Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 8 of 9

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.**14.4. Packing group:** No dangerous good in sense of this transport regulation.**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special measures are necessary.

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****EU regulatory information**

2010/75/EU (VOC): 14,3 % (164,45 g/l)

2004/42/EC (VOC): 14,3 % (164,452 g/l)

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Abbreviations and acronyms**ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H304 May be fatal if swallowed and enters airways.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains mixture of 5-chloro-2-methyl-2H-isothiazol-3-one (EG No. 247-500-7) and 2-methyl-2H-isothiazol-3-one (EG No. 220-239-6) (3:1).. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

P 05/05-LDX

Revision date: 27.08.2019

Page 9 of 9

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	Formulation or re-packing	F	-	-	8a, 9	2	-	-	
2	Automotive care products, Industrial uses	IS	-	-	7, 10, 17	4	-	-	
3	Automotive care products, Professional uses	PW	-	-	10, 11, 17	8a	-	-	
4	Automotive care products, Consumer use	C	-	31	-	8a	-	-	

LCS: Life cycle stages

SU: Sectors of use

PC: Product categories

PROC: Process categories

ERC: Environmental release categories

AC: Article categories

TF: Technical functions

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

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

1.1 Product identifier

Trade name: **FLEX P 03/06-LD**

Article number: 403.377

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

Sector of Use

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product category PC31 Polishes and wax blends

Application of the substance / the mixture Car care product

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

FLEX - Elektrowerkzeuge GmbH

Bahnhofstraße 15

D-71711 Steinheim

Tel.: +49(0)7144828-0

Fax: +49(0)714425899

E-Mail: info@flex-tool.com

Further information obtainable from: Phone +49(0)7144828-0

1.4 Emergency telephone number: +49 (0)7144828-0 (Only during business hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Precautionary statements P102 Keep out of reach of children.

Additional information:

EUH210 Safety data sheet available on request.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Emulsion of solvents, abrasives and additives

Dangerous components:

EC No 920-114-2 Reg.nr.: 01-2119459347-30-xxxx	Hydrocarbons, C14-C19, isoalkanes, cyclics, < 2% aromatics Alternative CAS number: 64742-46-7 ⚠ Asp. Tox. 1, H304	15 - <20%
CAS: 107-98-2 EINECS: 203-539-1 Reg.nr.: 01-2119457435-35-xxxx	1-Methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	3 - <5%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: No special measures required.

After inhalation: Supply fresh air.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

Trade name: **FLEX P 03/06-LD**

(Contd. of page 1)

After skin contact:

Generally the product does not irritate the skin.

Wash the areas of skin affected with water and a mild detergent.

After eye contact: Rinse opened eye for several minutes under running water.**After swallowing:** Do not induce vomiting; call for medical help immediately.**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment in accordance with the doctor's assessment of the patient's condition. Symptomatic treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**5.2 Special hazards arising from the substance or mixture** No further relevant information available.**5.3 Advice for firefighters****Protective equipment:**

The normal measures for firefighting are to be taken.

Do not enter the hazardous area without a self-contained breathing apparatus.

See Section 8 for information on personal protection equipment.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures** Not required.**6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

Absorb liquid components with liquid-binding material.

Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling** No special precautions are necessary if used correctly.**Information about fire - and explosion protection:** No special measures required.**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** Provide solvent resistant, sealed floor.**Information about storage in one common storage facility:** Store away from foodstuffs.**Further information about storage conditions:**

Store receptacle in a well ventilated area.

Protect from frost.

Recommended storage temperature: 20 °C.

7.3 Specific end use(s) No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 107-98-2 1-Methoxy-2-propanol**

WEL (Great Britain)	Short-term value: 560 mg/m ³ , 150 ppm
	Long-term value: 375 mg/m ³ , 100 ppm
	Sk

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

Trade name: **FLEX P 03/06-LD**

(Contd. of page 2)

IOELV (EU)	Short-term value: 568 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm Skin
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DNELs**CAS: 107-98-2 1-Methoxy-2-propanol**

Oral	DNEL	3.3 mg/kg (consumer) (long-term / systemic effects)
Dermal	DNEL	18.1 mg/kg (consumer) (long-term / systemic effects)
		50.6 mg/kg (worker) (long-term / systemic effects)
Inhalative	DNEL	43.9 mg/m ³ (consumer) (long-term / systemic effects)
		553.5 mg/m ³ (worker) (short-term / local effects)
		369 mg/m ³ (worker) (long-term / systemic effects)

PNECs**CAS: 107-98-2 1-Methoxy-2-propanol**

PNEC	100 mg/l (STP)
	100 mg/l (water (intermittent release))
	10 mg/l (water (fresh water))
	1 mg/l (water (sea water))
PNEC	2.47 mg/kg (gro)
	41.6 mg/kg (sediment (fresh water))
	4.17 mg/kg (sediment (sea water))

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls**Suitable technical control devices**

Ensure good ventilation. This can be achieved by localised extraction or general ventilation. If this is not sufficient to keep the concentration below the occupational exposure limit, suitable breathing protection is to be worn.

Personal protective equipment:**General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Respiratory protection:

Not required in normal cases

Ensure good ventilation/exhaustion at the workplace.

Protection of hands: Not required in normal cases.

Eye protection: Not required in normal cases

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Appearance:**

Form:	Emulsion
Colour:	White
Odour:	Solvent-like
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: 100 - 355 °C

Flash point: Not applicable.

Flammability (solid, gas): Not applicable.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

Trade name: FLEX P 03/06-LD

(Contd. of page 3)

Decomposition temperature:	Not determined.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	Not determined.
Density at 20 °C:	0.98 - 0.99 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Partly miscible.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Kinematic at 40 °C:	>20.5 mm ² /s
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No dangerous reactions known.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid See Section 7 for information on safe handling.

10.5 Incompatible materials: strong oxidizing agents

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects There are no toxicological findings on this mixture.

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Hydrocarbons, C14-C19, isoalkanes, cyclics, < 2% aromatics

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4d	>5,266 mg/l (rat) (Aerosol (OECD 403))

CAS: 107-98-2 1-Methoxy-2-propanol

Oral	LD50	4,016 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC0 / 6h	>7,000 ppm (rat)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

Trade name: FLEX P 03/06-LD

(Contd. of page 4)

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazardViscosity: > 20,5mm²/s (40°C)

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity There are no ecotoxicological data available on this mixture.

Aquatic toxicity:**Hydrocarbons, C14-C19, isoalkanes, cyclics, < 2% aromatics**

LL0 96h	87,556 mg/l (Oncorhynchus mykiss)
ErL0 72h	1,000 mg/l (Pseudokirchneriella subcapitata)
NOELR 72 h	1,000 mg/l (Pseudokirchneriella subcapitata)
NOELR 21d	5 mg/l (Daphnia magna)
ELO 48 h	1,000 mg/l (Daphnia magna)

CAS: 107-98-2 1-Methoxy-2-propanol

LC50 / 96h	>6,800 mg/l (Leuciscus idus) (DIN38412)
LC50 / 48h	23,300 mg/l (Daphnia magna)
EC50	>1,000 mg/l (Pseudokirchneriella subcapitata) (7d)
EC50/3h	>1,000 mg/l (activated sludge) (OECD 209)

12.2 Persistence and degradability**CAS: 107-98-2 1-Methoxy-2-propanol**

Biodegradation | 90-100 % (OECD 301E)

12.3 Bioaccumulative potential**CAS: 107-98-2 1-Methoxy-2-propanol**

log Kow | ≤0.43 log Kow (25°C)

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes: The product may not be released into the environment without control.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Not classified as hazardous waste according to Annex III to Directive 2008/98/EC.

Recommendation Waste must be disposed of while observing the local, official regulations.

European waste catalogue

- 1) Disposal / product
- 2) Disposal / contaminated packaging

12 01 99 | wastes not otherwise specified

15 01 02 | plastic packaging

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA

Void

14.2 UN proper shipping name

ADR, IMDG, IATA

Void

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 2.01

Revision: 24.01.2020

Trade name: FLEX P 03/06-LD

(Contd. of page 5)

14.3 Transport hazard class(es)**ADR, ADN, IMDG, IATA
Class**

Void

14.4 Packing group**ADR, IMDG, IATA**

Void

14.5 Environmental hazards:**Marine pollutant:**

No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of**Marpol and the IBC Code**

Not applicable.

UN "Model Regulation":

Void

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****European Directives:**

EC/1907/2006 (REACH)

EC/1272/2008 (CLP)

EC/648/2004

National regulations:**Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

NOEL = No Observed Effect Level

NOEC = No Observed Effect Concentration

LC = Lethal Concentration

EC50 = half maximal effective concentration

log POW = Octanol / water partition coefficient

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ATE: acute toxicity estimate

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

IOELV = indicative occupational exposure limit values

Flam. Liq. 3: Flammable liquids – Category 3

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

Version history and indication of changes: Replaces version 2.00.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

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

1.1 Product identifier

Trade name: **FLEX W 02/04**

Article number: 443.301

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

Sector of Use

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product category PC31 Polishes and wax blends

Application of the substance / the mixture Car care product

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

FLEX - Elektrowerkzeuge GmbH

Bahnhofstraße 15

D-71711 Steinheim

Tel.: +49(0)7144828-0

Fax: +49(0)714425899

E-Mail: info@flex-tool.com

Further information obtainable from: Phone +49(0)7144828-0

1.4 Emergency telephone number: +49 (0)7144828-0 (Only during business hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Precautionary statements P102 Keep out of reach of children.

Additional information:

EUH210 Safety data sheet available on request.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Aqueous formulation of waxes and paint-compatible silicones

Dangerous components:

EC No 926-141-6 Reg.nr.: 01-2119456620-43-xxxx	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics Alternative CAS number: 64742-47-8 ⚠ Asp. Tox. 1, H304	10 - <15%
EC No 934-956-3 Reg.nr.: 01-2119827000-58-xxxx	Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics Alternative CAS number: 64742-46-7 ⚠ Asp. Tox. 1, H304	1 - <3%
EC No 934-954-2 Reg.nr.: 01-2119826592-36-xxxx	Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics Alternative CAS number: 64742-46-7 ⚠ Asp. Tox. 1, H304	1 - <3%
EC No 920-107-4 Reg.nr.: 01-2119453414-43-xxxx	Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics Alternative CAS number: 64742-47-8 ⚠ Asp. Tox. 1, H304	1 - <3%

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

Trade name: FLEX W 02/04

(Contd. of page 1)

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: No special measures required.

After inhalation: No special measures required

After skin contact:

Generally the product does not irritate the skin.

Wash the areas of skin affected with water and a mild detergent.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment in accordance with the doctor's assessment of the patient's condition. Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture No further relevant information available.

5.3 Advice for firefighters

Protective equipment:

The normal measures for firefighting are to be taken.

Do not enter the hazardous area without a self-contained breathing apparatus.

See Section 8 for information on personal protection equipment.

Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Not required.

6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling No special precautions are necessary if used correctly.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Provide solvent resistant, sealed floor.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions:

Protect from frost.

Recommended storage temperature: 20 °C.

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

Trade name: FLEX W 02/04

7.3 Specific end use(s) No further relevant information available.

(Contd. of page 2)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics

RCP-TWA (EU)	Long-term value: 1200 mg/m ³ , 165 ppm Vapour / Total Hydrocarbons
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Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

GERMAN RCP-METHOD (EU)	Long-term value: 600 mg/m ³ 2 (II) / AGW (German TRGS 900)
------------------------	--

Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

GERMAN RCP-METHOD (EU)	Long-term value: 600 mg/m ³ 2 (II) / AGW (German TRGS 900)
------------------------	--

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics

GERMAN RCP-METHOD (EU)	Long-term value: 600 mg/m ³ 2 (II) / AGW (German TRGS 900)
------------------------	--

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Suitable technical control devices

Ensure good ventilation. This can be achieved by localised extraction or general ventilation. If this is not sufficient to keep the concentration below the occupational exposure limit, suitable breathing protection is to be worn.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

Respiratory protection:

Not required in normal cases
Ensure good ventilation/exhaustion at the workplace.

Protection of hands: Not required in normal cases.

Eye protection: Not required in normal cases

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Yellow
Odour:	Fruit-like
Odour threshold:	Not determined.

pH-value at 20 °C:	7.0 - 8.0
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Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 - 270 °C

Flash point:	Not applicable.
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Flammability (solid, gas):	Not applicable.
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Decomposition temperature:	Not determined.
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Auto-ignition temperature:	Product is not selfigniting.
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(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

Trade name: FLEX W 02/04

(Contd. of page 3)

Explosive properties: Product does not present an explosion hazard.

Explosion limits:**Lower:**

Explosion limits components:
0,6Vol% (Main ingredient data)

Upper:

Explosion limits components:
7,0Vol.% (Main ingredient data)

Vapour pressure:

Not determined.

Density at 20 °C:0.95 - 0.96 g/cm³**Relative density**

Not determined.

Vapour density

Not determined.

Evaporation rate

Not determined.

Solubility in / Miscibility with water:

Partly miscible.

Partition coefficient: n-octanol/water:

Not determined.

Viscosity:**Flow time at 20 °C**

>60 s (DIN EN ISO 2431/6mm)

Dynamic at 20 °C:

5000 - 8000 mPas

Kinematic at 40 °C:>20.5 mm²/s**9.2 Other information**

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No dangerous reactions known.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: strong oxidizing agents

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects There are no toxicological findings on this mixture.

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:**Aliphatic and cyclic-aliphatic hydrocarbon mixture:**

Oral	LD50	>5000 mg/kg (rat) (structurally similar material[OECD 401 equivalent])
Dermal	LD50	>5000 mg/kg (rabbit) (structurally similar material[OECD 402 equivalent])
Inhalative	LC50 / 4h	>4951 mg/m ³ (rat) (structurally similar material[OECD 403 equivalent])

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

None of the ingredients are known to have effects which are carcinogenic, mutagenic or harmful to reproduction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

Trade name: FLEX W 02/04

(Contd. of page 4)

Aspiration hazardViscosity: > 20,5mm²/s (40°C)

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity There are no ecotoxicological data available on this mixture.

Aquatic toxicity:**Aliphatic and cyclic-aliphatic hydrocarbon mixture:**

LL0 96h	1000 mg/l (Oncorhynchus mykiss) (structurally similar material)
EL0 / 48h	1000 mg/l (Daphnia magna) (structurally similar material)
EL0 / 72h	1000 mg/l (Pseudokirchneriella subcapitata) (structurally similar material)
NOELR 72 h	1000 mg/l (Pseudokirchneriella subcapitata) (structurally similar material)

12.2 Persistence and degradability**Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics**

Biodegradation 69 % (28d)

Aliphatic and cyclic-aliphatic hydrocarbon mixture:

Biodegradation 67.6 % (28d)

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Not classified as hazardous waste according to Annex III to Directive 2008/98/EC.

Recommendation Waste must be disposed of while observing the local, official regulations.**European waste catalogue**

- 1) Disposal / product
- 2) Disposal / contaminated packaging

12 01 99 wastes not otherwise specified

15 01 02 plastic packaging

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA

Void

14.2 UN proper shipping name

ADR

Void

IMDG, IATA

Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

14.4 Packing group

ADR, IMDG, IATA

Void

(Contd. on page 6)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.09.2020

Version: 1.01

Revision: 24.01.2020

Trade name: FLEX W 02/04

(Contd. of page 5)

14.5 Environmental hazards:**Marine pollutant:** No**14.6 Special precautions for user** Not applicable.**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.**UN "Model Regulation":** Void**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****European Directives:**

EC/1907/2006 (REACH)

EC/1272/2008 (CLP)

EC/648/2004

National regulations:**Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H304 May be fatal if swallowed and enters airways.

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

NOEL = No Observed Effect Level

NOEC = No Observed Effect Concentration

LC = lethal Concentration

EC50 = half maximal effective concentration

log POW = Octanol / water partition coefficient

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ATE: acute toxicity estimate

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

IOELV = indicative occupational exposure limit values

Asp. Tox. 1: Aspiration hazard – Category 1

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GB