

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

Revision date: 22/05/2023      396-DRX+; 396-DRX-M+      Product code: 950411      Page 1 of 10

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

396-DRX+; 396-DRX-M+

**Further trade names**

This MSDS covers the following products:  
- Flux 396-DRX+; 396-DRX-M+

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

Flux for soft soldering, VOC free

**Uses advised against**

Any non-intended use.

**1.3. Details of the supplier of the safety data sheet****Manufacturer**

Company name: Cobar Europe BV  
Street: Aluminiumstraat 2  
Place: NL-4823 AL Breda  
Telephone: +31 76 5445566      Telefax: +31 76 5445577  
e-mail: info@cobar.com  
e-mail (Contact person): SDS@balverzinn.com  
Internet: www.Cobar.com  
Responsible Department: BALVER ZINN (Germany)  
Product Safety Department +49 2375 915-199  
Only available during office hours.

**Supplier**

Company name: BALVER ZINN Josef Jost GmbH & Co. KG  
Street: Blintroper Weg 11  
Place: D-58802 Balve  
Telephone: +49 2375 915 - 0      Telefax: +49 2375 915 - 1700  
Internet: www.BalverZinn.com

**1.4. Emergency telephone number:**

+49 700 24 112 122 (Contract-ID: BZW)  
from USA / Canada please call 011 49 700 24 112 112

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Skin Irrit. 2; H315  
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Warning**Pictograms:**

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**Hazard statements**

- H315 Causes skin irritation.  
H319 Causes serious eye irritation.

**Precautionary statements**

- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.  
For information or further instructions, see also section 11 or 12.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

in aqueous solution

**Hazardous components**

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
110-94-1	glutaric acid			1 - < 5 %
	203-817-2		01-2120264127-58	
	Skin Corr. 1A; H314			

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

**Further Information**

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Remove contaminated, saturated clothing. First aider: Pay attention to self-protection!

**After inhalation**

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

**After contact with skin**

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

**After contact with eyes**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**

Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

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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**Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Atomized water.**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

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

Use personal protection equipment. Safe handling: see section 7 Personal protection equipment: see section 8

**For emergency responders**

No special measures are necessary.

**6.2. Environmental precautions**

Discharge into the environment must be avoided.

**6.3. Methods and material for containment and cleaning up****Other information**

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.

Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Wear suitable protective clothing. See section 8.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Always close containers tightly after the removal of product. Do not eat, drink, smoke or sneeze at the workplace.

Wash hands before breaks and after work.

**Further information on handling**

General protection and hygiene measures: See section 8.

**7.2. Conditions for safe storage, including any incompatibilities**

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**Requirements for storage rooms and vessels**

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

**Hints on joint storage**

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

**Further information on storage conditions**

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.  
Recommended storage temperature: 20°C  
Protect against: frost. UV-radiation/sunlight. heat. Humidity

**7.3. Specific end use(s)**

See section 1.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
110-94-1	glutaric acid			
Worker DNEL, long-term		inhalation	systemic	11,52 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	3,27 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	2,84 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	1,63 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	69,12 mg/m <sup>3</sup>
Worker DNEL, acute		dermal	systemic	19,6 mg/kg bw/day
Consumer DNEL, acute		inhalation	systemic	17,04 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	1,63 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	9,8 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
110-94-1	glutaric acid	
Freshwater		0,12 mg/l
Marine water		0,012 mg/l
Freshwater sediment		0,097 mg/kg
Marine sediment		0,01 mg/kg
Soil		0,002 mg/kg

**Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls**



**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.  
Provide adequate ventilation.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Eye glasses with side protection

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**Hand protection**

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time  $\geq$  8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time  $\geq$  8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

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.

Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

**Skin protection**

Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

-Exceeding exposure limit values

-Insufficient ventilation and aerosol or mist formation

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). type: P1-3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

**Environmental exposure controls**

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.
Colour:	colourless
Odour:	odourless
Melting point/freezing point:	not applicable
Boiling point or initial boiling point and boiling range:	~100
Flammability:	Non-flammable.
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not determined
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined

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Vapour pressure: ~23  
Density: 1,007 g/cm<sup>3</sup>  
Relative vapour density: not determined

**9.2. Other information****Information with regard to physical hazard classes**

Explosive properties  
none  
Sustaining combustion: Not sustaining combustion  
Oxidizing properties  
none.

**Other safety characteristics**

Evaporation rate: not determined  
Solvent separation test: not determined  
Solvent content: not determined  
Solid content: 2,70 %  
Sublimation point: not determined  
Softening point: not determined  
Pour point: not determined  
Viscosity / dynamic: not determined  
Flow time: not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

**10.6. Hazardous decomposition products**

Does not decompose when used for intended uses.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicocinetics, metabolism and distribution**

No data available.

**Acute toxicity**

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

**Irritation and corrosivity**

Causes skin irritation.  
Causes serious eye irritation.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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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 data available.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other information**

No data available.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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

The product has not been tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
110-94-1	glutaric acid					
	Acute algae toxicity	ErC50 738 mg/l	72 h	Pseudokirchneriella subcapitata	SDS external	OECD 201
	Acute crustacea toxicity	EC50 6840 mg/l	48 h	Daphnia magna	ECHA	OECD 202
	Algae toxicity	NOEC 320 mg/l	3 d	Pseudokirchneriella subcapitata	SDS external	OECD 201

**12.2. Persistence and degradability**

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
110-94-1	glutaric acid				
	OECD 301D / EEC 92/69 annex V, C.4-E	73%	28	ECHA	
	The product is readily biodegradable to OECD criteria.				

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
110-94-1	glutaric acid	-0,256

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

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

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

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**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.  
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

**12.7. Other adverse effects**

No data available.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

**List of Wastes Code - residues/unused products**

161001 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid wastes containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

161001 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid wastes containing hazardous substances; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Recommended cleaning agent: Water, if necessary together with cleansing agents.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**Inland waterways transport (ADN)****14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**Marine transport (IMDG)****14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

refer to chapter 6 - 8

**14.7. Maritime transport in bulk according to IMO instruments**

not relevant



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

Restrictions on use (REACH, annex XVII):

Entry 3

2010/75/EU (VOC): 0,96 % (9,667 g/l)

2004/42/EC (VOC): No information available.

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): - - non-hazardous to water

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,4,5,6,7,8,9,10,11,12,13,14,15,16.

Rev. 1.0, 23.02.2015: Initial release

Rev. 1.1, 24.11.2016: Indication of changes - chapter: 1,2,3,6,12,15,16

Rev. 2.0, 05.03.2021: Indication of changes - chapter: 1 - 16

Rev. 2.1/JTH, 22.05.2023: Indication of changes - chapter: 1,2,4,5,6,7,8,9,10,11,12,13,14,15,16

**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)

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

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

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln fuerGefahrstoffe

TSCA: Toxic Substances Control Act

VOC: Volatile Organic Compounds

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CLP: Classification, labelling and Packaging  
 REACH: Registration, Evaluation and Authorization of Chemicals  
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
 UN: United Nations  
 DNEL: Derived No Effect Level  
 DMEL: Derived Minimal Effect Level  
 PNEC: Predicted No Effect Concentration  
 ATE: Acute toxicity estimate  
 LL50: Lethal loading, 50%  
 EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 PBT: persistent, bioaccumulative, toxic  
 vPvB: very persistent, very bioaccumulative  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route  
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Regulations concerning the international carriage of dangerous goods by rail  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation  
 intérieures)  
 EmS: Emergency Schedules  
 MFAG: Medical First Aid Guide  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
 IBC: Intermediate Bulk Container  
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety  
 assessment, chapter R.20 (Table of terms and abbreviations).

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method

**Relevant H and EUH statements (number and full text)**

H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.

**Further Information**

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:  
 Health hazards: Calculation method.  
 Environmental hazards: Calculation method.  
 Physical hazards: On basis of test data and / or calculated and / or estimated.

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.

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