ZipChip Metabolites Acid

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.
Issue date: 10/26/2023 Revision date: 4/28/2023 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : ZipChip Metabolites Acid

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For research and development use only.
Restrictions on use : Not for use in diagnostic procedures.

1.3. Supplier

Manufacturer
908 Devices
645 Summer St
Boston, MA, 02210
USA
T 1 (857) 254 - 1500
908devices.com

1.4. Emergency telephone number

Emergency number : 1 (844) 908 - 4357

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute Tox. 4 (Inhalation:vapour)	Harmful if inhaled
Skin Corr. 1B	Causes severe skin burns and eye damage
Eye Dam. 1	Causes serious eye damage
HHNOC 1	Causes severe damage to the respiratory tract

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : Causes severe skin burns and eye damage

Harmful if inhaled
Causes severe damage to the respiratory tract

Precautionary statements (GHS US) : Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash hands, forearms and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Call a poison center or doctor if you feel unwell.
If swallowed: rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center or doctor.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Formic acid	CAS-No.: 64-18-6	30 – 60

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician. Give oxygen or artificial respiration if necessary.

First-aid measures after skin contact : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Harmful if inhaled. May cause burns to the respiratory tract.

Symptoms/effects after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters.

Symptoms/effects after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Carbon dioxide (CO2), dry chemical powder, foam.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool closed containers exposed to fire with water spray. Move containers away from the fire area if this can be done without risk.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

Emergency procedures : Do not touch or walk on the spilled product.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapour or mist. Do not get in eyes, on skin, or on clothing. Do not swallow. When using do not eat, drink or smoke. Handle and open container with care. Wear appropriate PPE (see Section 8).

Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Do not store in unlabelled containers. Containers which are opened should be properly resealed and kept upright to prevent leakage. Protect from physical damage. . Store in dry, cool, well-ventilated area. Keep away from incompatible materials.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ZipChip Metabolites Acid

No additional information available

Formic acid (64-18-6)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	5 ppm
ACGIH OEL STEL [ppm]	10 ppm
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	9 mg/m³
OSHA PEL (TWA) [2]	5 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	30 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	9 mg/m³
NIOSH REL TWA [ppm]	5 ppm

Additional information : Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Consult glove manufacturer's product information on material suitability and material thickness.

Eye protection:

Wear eye/face protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Thermal hazard protection:
Not required for normal conditions of use.

Other information:
Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear.
Color	:	No data available
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not flammable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Water: 100 %
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Powdered metals.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Harmful if inhaled.

ZipChip Metabolites Acid	
ATE US (vapors)	15.7 mg/l/4h

Formic acid (64-18-6)	
LD50 oral rat	1100 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat	7.85 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Formic acid (64-18-6)	
NOAEL (chronic,oral,animal/male,2 years)	400 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information)

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Formic acid (64-18-6)	
LOAEL (oral,rat,90 days)	2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (oral,rat,90 days)	400 mg/kg body weight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEC (inhalation,rat,dust/mist/fume,90 days)	0.244 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : Harmful if inhaled. May cause burns to the respiratory tract.
Symptoms/effects after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters.
Symptoms/effects after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
Symptoms/effects after ingestion : May be harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Formic acid (64-18-6)	
LC50 - Fish [1]	130 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	120 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	138 – 165.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 72h - Algae [1]	26.9 mg/l (Species: Desmodesmus subspicatus)
EC50 96h - Algae [1]	25 mg/l (Species: Desmodesmus subspicatus)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

ZipChip Metabolites Acid	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

ZipChip Metabolites Acid	
Bioaccumulative potential	Not established.

Formic acid (64-18-6)	
BCF - Fish [1]	(0.22 dimensionless)
Partition coefficient n-octanol/water	-1.9 (at 23 °C (at pH 5)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. The generation of waste should be avoided or minimized wherever possible. Recycle empty containers where allowed. Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN3412

UN-No. (IMDG) : UN3412
UN-No. (IATA) : UN3412

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Formic acid
Proper Shipping Name (IMDG) : FORMIC ACID
Proper Shipping Name (IATA) : Formic acid

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 8
Hazard labels (DOT) : 8

IMDG

Transport hazard class(es) (IMDG) : 8
Hazard labels (IMDG) : 8

IATA

Transport hazard class(es) (IATA) : 8
Hazard labels (IATA) : 8

14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

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Revision date : 04/28/2023

Other information : None.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

Full text of H-phrases	
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapor) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
HHNOC 1	Health hazard not otherwise classified, category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B

Indication of changes:

Section	Changed item	Change	Comments
14	Transport information	Modified	V1.1
SDS	Product name	Modified	V1.1

Safety Data Sheet (SDS), USA

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