



SAFETY DATA SHEET

according to WHMIS 2015 and ANSI Z400.1-2010

WEICON F2 Hardener

Material number 102002

Revision date: 4/Nov/2016

Version: 1

Language: en-CA,US

Date of print: 5/Dec/2016

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1. Product and company identification

Product identifier

Trade name: WEICON F2 Hardener

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

General use: Two-component epoxy resins, hardener component.
Reserved for industrial and professional use.

Details of the supplier of the safety data sheet

Company name: WEICON Inc.
Street/POB-No.: 20 Steckle Place, Unit 20
Postal Code, city: Kitchener, Ontario N2E 2C3, CA
WWW: www.weicon.ca
E-mail: info@weicon.ca
Telephone: +1-519-896-5252
Telefax: +1-519-896-5254
Dept. responsible for information:
Product-Safety-Department
Telephone: +49(0)251 / 9322 - 0, Email: msds@weicon.de

Emergency phone number

EMERGENCY CONTACT – Canada (24h): Tel: ++1 866 928 0789 (Toll free)

Transport:

TRANSPORT EMERGENCY CONTACT - Canada (24h): Tel: ++1 866 928 0789 (Toll free)

2. Hazards identification

Emergency overview

Appearance: Physical state at 20 °C and 101.3 kPa: liquid
Color: blue
Odor: slightly perceptible
Classification: Skin Corrosion 1A; Sensitization - skin 1; Reproductive toxicity 2;
Aquatic toxicity - acute 1; Aquatic toxicity - chronic 1;

Hazard symbols:



Signal word:

Danger

Hazard statements:

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility.
Very toxic to aquatic life with long lasting effects.



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Precautionary statements: Keep out of reach of children.
Obtain special instructions before use.
Do not breathe vapors.
Wash hands and face thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water/soap.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.
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.
IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER/doctor.
Specific treatment (see 'First aid' on this label).
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

May be harmful if swallowed. Suspected of damaging fertility.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterisation: Polyaminoamide

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 1226892-45-0	Fatty acids C18 unsat, reaction products with tetraethylenepentamine	60 - 99.9 %	Skin Corrosion 1A. Eye Damage 1. Sensitization - skin 1. Aquatic toxicity - acute 1. Aquatic toxicity - chronic 1.
CAS 80-05-7	4,4'-Isopropylidenediphenol	7 - 13 %	Eye Damage 1. Sensitization - skin 1. Reproductive toxicity 2. Specific Target Organ Toxicity (Single Exposure) 3. Aquatic toxicity - chronic 2.
CAS 140-31-8	2-Piperazin-1-ylethylamine	3 - 7 %	Acute Toxicity 4 (oral). Acute Toxicity 3 (dermal). Skin Corrosion 1B. Sensitization - skin 1. Aquatic toxicity - chronic 3.

4. First aid measures

General information: First aider: Pay attention to self-protection!
Take off immediately all contaminated clothing and wash it before reuse.



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- In case of inhalation: Provide fresh air. When inhaling vapors, first symptoms of poisoning may develop hours later, so always consult a doctor.
Move victim to fresh air; if necessary, provide artificial respiration or oxygen.
- Following skin contact: After contact with skin, wash immediately with soap and plenty of water.
Immediately get medical attention.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate transport to an eye specialist (continue rinsing during transport)
- After swallowing: Do not induce vomiting. Aspiration hazard: in case of swallowing or vomiting danger of penetration into the lungs.
If victim is at risk of losing consciousness, position and transport on their side.
Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person.
Immediately get medical attention.

Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. May cause an allergic skin reaction.
Respiratory complaints, vomiting, abdominal pain, headache, allergic reactions, nausea, gastrointestinal complaints, skin irritations

Information to physician

Symptoms of poisoning can only emerge after several hours; medical supervision is therefore essential for at least 48 hours. Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

147 °C (c.c.)

Auto-ignition temperature: No data available

Suitable extinguishing media::

Water fog, carbon dioxide, foam, extinguishing powder. Co-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons:

High power water jet

Specific hazards arising from the chemical

Hazardous vapors may form during fires.

In case of fire may be liberated: Nitrogen oxides (NO_x), aromatic hydrocarbons, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Do not inhale explosion and combustion gases.

Additional information:

Cool endangered containers with water jetspray. Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions:

Provide adequate ventilation. Do not breathe fume/gas/mist/vapors/spray. Take off immediately all contaminated clothing and wash it before reuse. Avoid contact with the substance. Eliminate all ignition sources if safe to do so. Wear appropriate protective equipment. Wear respiratory protection when in the presence of vapor, dust, and aerosols. Keep unprotected people away.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains. Do not allow to enter into soil/subsoil. In case of release, notify competent authorities.



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Methods for clean-up: Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.
Avoid the formation of aerosol.
Do not breathe fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
Handle and open container with care. Wear protective equipment.
Take off immediately all contaminated clothing and wash it before reuse.

Precautions against fire and explosion:
Keep away from sources of ignition - No smoking.
Usual measures for fire prevention.

Storage

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place. Keep container dry.
Protect from heat and direct sunlight. Handle and open container with care.
Keep only in original container. storage temperature: 5 °C up to 40 °C. Store containers in upright position.

Hints on joint storage: Keep away from: Strong acids, strong bases, strong oxidizing agents, metals.
Keep away from food, drink and animal feedingstuffs.

Further details: Store locked up.

8. Exposure controls / personal protection

Engineering controls

Provide adequate ventilation.
If necessary: Execute works under fume hood.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material, Nitrile rubber, neoprene.
Breakthrough time: < 480 min
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.
The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.
If higher concentrations occur: Wear self-contained breathing apparatus.

General hygiene considerations:
Keep away from sources of ignition - No smoking.
Avoid contact with skin and eyes.
Take off immediately all contaminated clothing.
Do not breathe vapors.
Wash hands before breaks and after work.
Safety shower and eye wash station should be easily accessible to the work area.



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9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 20 °C and 101.3 kPa: liquid Color: blue
Odor:	slightly perceptible
Odor threshold:	No data available
pH value:	at 20 °C, 50%: 11
Melting point/freezing point:	not determined
Initial boiling point and boiling range:	> 200 °C
Flash point/flash point range:	147 °C (c.c.)
Evaporation rate:	not determined
Flammability:	No data available
Explosion limits:	LEL (Lower Explosion Limit): not determined UEL (Upper Explosive Limit): not determined
Vapor pressure:	at 20 °C: 10 Pa
Vapor density:	No data available
Density:	at 25 °C: 0.98 g/mL
Water solubility:	at 20 °C: insoluble
Partition coefficient: n-octanol/water:	not determined
Auto-ignition temperature:	No data available
Thermal decomposition:	> 200 °C
Viscosity, dynamic:	at 25 °C: 450 - 900 mPa*s
Viscosity, kinematic:	not determined

10. Stability and reactivity

Reactivity:	Corrosive to most metals.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Violent reaction with oxidizing agents and acids. With nitrosic agents (such as nitric salts or nitric oxides) under special conditions may form nitrosamines.
Conditions to avoid:	Keep away from heat sources, sparks and open flames. Protect against direct sunlight. Protect from moisture contamination.
Incompatible materials:	Strong oxidizing agents, strong acids, strong bases, metals.
Hazardous decomposition products:	Hazardous vapors may form during fires. In case of fire may be liberated: Nitrogen oxides (NO _x), aromatic hydrocarbons, carbon monoxide and carbon dioxide.
Thermal decomposition:	> 200 °C



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11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.
Acute toxicity (oral): Based on available data, the classification criteria are not met.
ATEmix (calculated): 4100 mg/kg
Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix (calculated): > 2000 mg/kg.
Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
Skin corrosion/irritation, eye damage/irritation: Skin Corrosion 1A = Causes severe skin burns and eye damage.
Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine:
Specific symptoms in animal studies (Rabbit): corrosive (OECD 404)
Information about 2-Piperazin-1-ylethylamine:
Specific symptoms in animal studies (Rabbit): corrosive (OECD 404)
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Sensitization - skin 1 = May cause an allergic skin reaction.
Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine
Specific symptoms in animal studies (guinea pig): sensitising (OECD 406)
Information about 4,4'-Isopropylidenediphenol:
Specific symptoms in animal studies (guinea pig): sensitising (OECD 406)
Information about 2-Piperazin-1-ylethylamine:
Specific symptoms in animal studies (guinea pig): sensitising (OECD 406)
Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.
Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine:
Mammalian cell test, in-vitro: Negative. (OECD 473)
Information about 4,4'-Isopropylidenediphenol:
Bacterial mutagenicity: Negative in the Ames test. (OECD 471)
Carcinogenicity: Lack of data.
Reproductive toxicity: Reproductive toxicity 2 = Suspected of damaging fertility.
Information about 4,4'-Isopropylidenediphenol:
Reproduction toxicity:
Specific symptoms in animal studies (Rat), oral
- Reproduction toxicity, NOAEL: 5 mg/kg
Evidence for reproductive toxicity in experimental animals. (OECD 416)
Effects on or via lactation: Lack of data.
Specific target organ toxicity (single exposure): Lack of data.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Other information: Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine:
LD50 Rat, female, oral: > 2000 mg/kg.
Information about 4,4'-Isopropylidenediphenol:
LD50 Rat, oral: 2000 - 5000 mg/kg. (OECD 401)
LD50 Rabbit, male, dermal: 6400 mg/kg. (OECD 402)
LC50 Rat, inhalative, Aerosol: > 0,17 mg/L/6h. (OECD 403)
Information about 2-Piperazin-1-ylethylamine:
LD50 Rat, oral: 2097 mg/kg
LD50 Rabbit, dermal: 866 mg/kg.



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Symptoms

In case of inhalation:

Mucous membrane irritation, cough, shortage of breath, damage of respiratory tract.

In case of ingestion:

If swallowed, severe burns in the oral cavity and throat as well as danger of perforation of the digestive tract and stomach.

After contact with skin: burns, redness, pain.

After eye contact: Irritant and corrosive effects. May cause blindness.

12. Ecological information

Ecotoxicity

Aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine:

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 0.18 mg/L/48h (OECD 202).

Fish toxicity:

LC50 Leuciscus idus: 0.19 mg/L/96 h (OECD 203).

Information about 4,4'-Isopropylidenediphenol:

EC50 Pseudokirchneriella subcapitata (green algae): 2.73 - 3.1 mg/L/96h (OECD 201).

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 3.9 mg/L/48 h (OECD 202).

Fish toxicity:

LC50 Oncorhynchus mykiss 7.5 mg/L/96 h (OECD 203).

Information about 2-Piperazin-1-ylethylamine:

EC50 Pseudokirchneriella subcapitata (green algae): >1000 mg/L/72h (OECD 201).

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 58 mg/L/48 h (OECD 202).

Fish toxicity:

LC50 Pimephales promelas (fathead minnow): 2190 mg/L/96 h (OECD 203).

Further details:

Information about Fatty acids C18 unsat, reaction products with tetraethylenepentamine:

Biodegradation: 89 %/48 d (OECD 303 A).

Inherently biodegradable

Information about 4,4'-Isopropylidenediphenol:

Biodegradation: 89 %/28 d (OECD 301 F).

Product is biodegradable.

Information about 2-Piperazin-1-ylethylamine:

Biodegradation: 0 %/28 d (OECD 301 F).

Product is not biodegradable.

Mobility in soil

No data available

Persistence and degradability

Further details:

No data available

Additional ecological information

Volatile organic compounds (VOC):

0 % by weight

General information:

Do not allow to enter into ground-water, surface water or drains.



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13. Disposal considerations

Product

Recommendation: Special waste. Dispose of waste according to applicable legislation.

Contaminated packaging

Recommendation: Non-contaminated packages may be recycled.
Handle contaminated packages in the same way as the substance itself. Dispose of waste according to applicable legislation.

14. Transport information

USA: Department of Transportation (DOT)

Identification number: UN2735
Proper shipping name: UN 2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Fatty acids C18 unsat, reaction products with tetraethylenepentamine; 4,4'-Isopropylidenediphenol, 2-Piperazin-1-ylethylamine)
Hazard class or Division: 8
Packing Group: II
Labels: 8
Symbols: G
Special provisions: B2, IB2, T11, TP1, TP27
Packaging – Exceptions: 154
Packaging – Non-bulk: 202
Packaging – Bulk: 242
Quantity limitations – Passenger aircraft / rail: 1 L
Quantity limitations – Cargo only: 30 L
Vessel stowage – Location: A
Vessel stowage – Other: 52



Canada: Transportation of Dangerous Goods (TDG)

UN Number: UN2735
Shipping name: UN 2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Fatty acids C18 unsat, reaction products with tetraethylenepentamine; 4,4'-Isopropylidenediphenol, 2-Piperazin-1-ylethylamine)
TDG class: 8
Packing group: II
Special provisions: 16
Explosive limit and limited quantity index: 1 L
Passenger carrying road or rail index: 1 L



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Sea transport (IMDG)

UN number: UN 2735
Proper shipping name: UN 2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Fatty acids C18 unsat, reaction products with tetraethylenepentamine;
4,4'-Isopropylidenediphenol, 2-Piperazin-1-ylethylamine)
Class or division, Subsidiary risk: Class 8, Subrisk-
Packing Group: II
EmS: F-A, S-B
Special provisions: 274
Limited quantities: 1 L
Excepted quantities: E2
Contaminated packaging - Instructions: P001
Contaminated packaging - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T11
Tank instructions - Provisions: TP1, TP27
Stowage and handling: Category A.
Segregation: SG35
Properties and observations: Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. React violently with acids. Cause burns to skin, eyes and mucous membranes.
Marine pollutant: yes
Segregation group: 18

Air transport (IATA)

UN/ID number: UN 2735
Proper shipping name: UN 2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Fatty acids C18 unsat, reaction products with tetraethylenepentamine;
4,4'-Isopropylidenediphenol, 2-Piperazin-1-ylethylamine)
Class or division, Subsidiary risk: Class 8
Packing Group: II
Hazard label: Corrosive
Excepted Quantity Code: E2
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y840 - Max. Net Qty/Pkg. 0.5 L
Passenger and Cargo Aircraft: Pack.Instr. 851 - Max. Net Qty/Pkg. 1 L
Cargo Aircraft only: Pack.Instr. 855 - Max. Net Qty/Pkg. 30 L
Special provisions: A3 A803
Emergency Response Guide-Code (ERG): 8L

15. Regulatory information

National regulations - Canada

No data available



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National regulations - U.S. Federal Regulations

Fatty acids C18 unsat, reaction products with tetraethylenepentamine:

4,4'-Isopropylidenediphenol:

TSCA Inventory: listed
TSCA HPVC: not listed

TSCA Inventory: listed
TSCA HPVC: not listed
Clean Air Act:

Hazardous Air Pollutants: yes
SOCMI Chemical: yes

Other Environmental Laws:
SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard

2-Piperazin-1-ylethylamine:

TSCA Inventory: listed
TSCA HPVC: not listed

National regulations - U.S. State Regulations

4,4'-Isopropylidenediphenol:

California Proposition 65 code: -
Delaware Air Quality Management List:
DRQ: 100 - RQ State: State requirement differs from Federal
Massachusetts Haz. Substance codes: F9
New Jersey RTK Hazardous Substance:
DOT: -- - Sub No.: 2388 - TPQ: -
Pennsylvania Haz. Substance code: E
California Proposition 65: female
Rhode Island HSL: listed

16. Other information

Text for labeling: Contains 60 - 99.9 % Fatty acids C18 unsat, reaction products with tetraethylenepentamine, 7 - 13 % 4,4'-Isopropylidenediphenol, 3 - 7 % 2-Piperazin-1-ylethylamine. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:
Health: 3 (Serious)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 3 (Serious) - Chronic effects
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0
		X

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Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.