SAFETY DATA SHEET

1. Identification

Product identifier T & B SC4-KIT-1

Other means of identification

SDS number SDS-00036

Product code SC4-KIT-1

Recommended use Epoxy Hardener

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name ABB Installation Products Inc.

Address 860 Ridge Lake Blvd.
Memphis, TN 38120
US

Telephone 901-252-5000 ext.8324

E-mail Not available.

Emergency phone number CHEMTREC - 24 HOURS: +1 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 4
Acute toxicity, dermal	Category 4
Acute toxicity, inhalation	Category 3
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 1
Sensitization, skin	Category 1B
Carcinogenicity	Category 2
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Specific target organ toxicity, repeated exposure	Category 2 (lung)

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Harmful if swallowed. Harmful in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause cancer. May cause respiratory irritation. May cause damage to organs (lung) through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response 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/doctor.

Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Aliphatic Amine	-	30 - 60
Furfuryl alcohol	98-00-0	10 - 30
m-Phenylenebis(methylamine)	1477-55-0	10 - 30
2-Furaldehyde	98-01-1	0.1 - 1
Carbon black	1333-86-4	0.1 - 1

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments	The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-Furaldehyde (CAS 98-01-1)	PEL	20 mg/m3
		5 ppm
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m3
Furfuryl alcohol (CAS 98-00-0)	PEL	200 mg/m3
		50 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-Furaldehyde (CAS 98-01-1)	TWA	0.2 ppm	
Carbon black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Furfuryl alcohol (CAS 98-00-0)	TWA	0.2 ppm	
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Ceiling	0.1 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m3
Furfuryl alcohol (CAS 98-00-0)	STEL	60 mg/m3
		15 ppm
	TWA	40 mg/m3
		10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Ceiling	0.1 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Furaldehyde (CAS 98-01-1)	200 mg/l	Furoic acid, with hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-Furaldehyde (CAS 98-01-1)	Can be absorbed through the skin.
Furfuryl alcohol (CAS 98-00-0)	Can be absorbed through the skin.
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Furaldehyde (CAS 98-01-1)	Skin designation applies.
Furfuryl alcohol (CAS 98-00-0)	Skin designation applies.

US - Tennessee OELs: Skin designation

2-Furaldehyde (CAS 98-01-1)	Can be absorbed through the skin.
Furfuryl alcohol (CAS 98-00-0)	Can be absorbed through the skin.
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

2-Furaldehyde (CAS 98-01-1)	Can be absorbed through the skin.
Furfuryl alcohol (CAS 98-00-0)	Can be absorbed through the skin.
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Furfuryl alcohol (CAS 98-00-0)	Can be absorbed through the skin.
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Furaldehyde (CAS 98-01-1)	Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses or safety goggles unless full face respirator is in use.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Black.

Odor Mild.

Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	96.11 °C (205°F) Setaflash Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.14 (water = 1)
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	0.0 % California SCAQMD Method 316B

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Bases. Strong acids. Peroxides. Alcohols. Sodium hypochlorite. Mineral acid. Do not use sodium nitrite or other nitrosating agents in product. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Aldehydes. Ammonia. Ammonia Toxic fumes. Irritating vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Causes severe skin burns. Harmful in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Harmful in contact with skin. Harmful if swallowed. May cause respiratory irritation. May cause an allergic skin reaction.

Components	Species	Test Results
2-Furaldehyde (CAS 98-01-1)		
Acute		
Inhalation		
LC50	Rat	0.54 - 1.63 mg/l, 4 Hours
Carbon black (CAS 1333-86-4)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg
Oral		
LD50	Rat	> 8000 mg/kg
Furfuryl alcohol (CAS 98-00-0)		
Acute		
Dermal		
LD50	Rabbit	400 mg/kg
Inhalation		
Vapor		
LC50	Rat	0.8 - 2.1 mg/l, 4 Hours
Oral		
LD50	Rat	110 - 451 mg/kg
m-Phenylenebis(methylamine) (CAS 1477-55-0)		
Acute		
Dermal		
LD50	Rabbit	2000 mg/kg
Inhalation		
Aerosol		
LC50	Rat	3.75 mg/l, 1 Hours
Oral		
LD50	Rat	930 mg/kg

Skin corrosion/irritation Causes severe skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Furaldehyde (CAS 98-01-1)	3 Not classifiable as to carcinogenicity to humans.
Carbon black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Furfuryl alcohol (CAS 98-00-0)	2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure May cause damage to organs (lung) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
2-Furaldehyde (CAS 98-01-1)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	16 mg/l, 48 hours
Carbon black (CAS 1333-86-4)			
Aquatic			
Acute			
Fish	LC50	Leuciscus idus	>= 1000 mg/l, 96 Hours
Furfuryl alcohol (CAS 98-00-0)			
Aquatic			
Acute			
Crustacea	LC50	Water flea (Daphnia magna)	115 mg/l, 24 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2-Furaldehyde (CAS 98-01-1)	0.41
Furfuryl alcohol (CAS 98-00-0)	0.28

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN2922

UN proper shipping name Corrosive liquids, toxic, n.o.s. (m-Phenylenebis(methylamine), Furfuryl alcohol)

Transport hazard class(es)

Class 8

Subsidiary risk 6.1

Label(s) 8, 6.1

Packing group II

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions B3, IB2, T7, TP2

Packaging exceptions 154

Packaging non bulk 202

Packaging bulk 243

IATA

UN number UN2922

UN proper shipping name Corrosive liquid, toxic, n.o.s. (m-Phenylenebis(methylamine), Furfuryl alcohol)

Transport hazard class(es)

Class	8
Subsidiary risk	6.1
Packing group	II
Environmental hazards	No.
ERG Code	8P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN2922
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (m-Phenylenebis(methylamine), Furfuryl alcohol)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Furaldehyde (CAS 98-01-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

2-Furaldehyde (CAS 98-01-1)	High priority
Furfuryl alcohol (CAS 98-00-0)	Low priority

US state regulations

US. Massachusetts RTK - Substance List

2-Furaldehyde (CAS 98-01-1)
Carbon black (CAS 1333-86-4)
Furfuryl alcohol (CAS 98-00-0)
m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. New Jersey Worker and Community Right-to-Know Act

2-Furaldehyde (CAS 98-01-1)
Carbon black (CAS 1333-86-4)
Furfuryl alcohol (CAS 98-00-0)
m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Furaldehyde (CAS 98-01-1)
Carbon black (CAS 1333-86-4)
Furfuryl alcohol (CAS 98-00-0)
m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. Rhode Island RTK

2-Furaldehyde (CAS 98-01-1)
Carbon black (CAS 1333-86-4)
Furfuryl alcohol (CAS 98-00-0)
m-Phenylenebis(methylamine) (CAS 1477-55-0)

California Proposition 65

WARNING: This product can expose you to chemicals including Furfuryl alcohol, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Carbon black (CAS 1333-86-4)	Listed: February 21, 2003
Furfuryl alcohol (CAS 98-00-0)	Listed: September 30, 2016

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Carbon black (CAS 1333-86-4)
Furfuryl alcohol (CAS 98-00-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	17-December-2015
Revision date	26-February-2019
Version #	D

HMIS® ratings

Health: 3*
Flammability: 1
Physical hazard: 0

NFPA ratings

Disclaimer

ABB Installation Products Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.