

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>HM70</b>	
<b>Other means of identification</b>		
<b>SDS number</b>	SDS-00064	
<b>Product code</b>	*See Section 16	
<b>Recommended use</b>	Corrosion Inhibitor	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Company name</b>	ABB Installation Products Inc.	
<b>Address</b>	860 Ridge Lake Blvd. Memphis, TN 38120 US	
<b>Telephone</b>	901-252-5000 ext.8324	
<b>E-mail</b>	Not available.	
<b>Emergency phone number</b>	INFOTRAC - 24 HOURS:	1-800-535-5053 +1 352-323-3500 (Outside USA)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Specific target organ toxicity, repeated exposure (inhalation)	Category 1 (Lungs)
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	May cause an allergic skin reaction. Suspected of causing cancer. Causes damage to organs (Lungs) through prolonged or repeated exposure by inhalation. Harmful to aquatic life with long lasting effects.
<b>Precautionary statement</b>	
<b>Prevention</b>	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. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If exposed or concerned: Get medical advice/attention.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

Supplemental information None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Aluminium	7429-90-5	7 - 13
Nickel	7440-02-0	7 - 13
2,5-bis(octyldithio)-1,3,4-thiadiazole	13539-13-4	0.1 - 1
Diocetyl Disulphide	822-27-5	0.1 - 1
Zinc oxide	1314-13-2	0.1 - 1

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

#### 4. First-aid measures

<b>Inhalation</b>	Not a likely route of exposure under normal product handling conditions. However: Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. May irritate and cause stomach pain, vomiting, diarrhea and nausea.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	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. Wash contaminated clothing before reuse.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use extinguishing agent suitable for type of surrounding fire.
<b>Unsuitable extinguishing media</b>	No restrictions known.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Product is nonflammable and does not support combustion.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. In case of spills, beware of slippery floors and surfaces. 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.
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**Methods and materials for containment and cleaning up**

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. 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 release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. 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. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Be aware of potential for surfaces to become slippery. Observe good industrial hygiene practices.

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

Store locked up. Store in tightly closed container. 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	Form
Aluminium (CAS 7429-90-5)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
Nickel (CAS 7440-02-0)	PEL	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		5 mg/m <sup>3</sup>	Fume.
		15 mg/m <sup>3</sup>	Total dust.

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m <sup>3</sup>	Inhalable fraction.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable fraction.
	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m <sup>3</sup>	Welding fume or pyrophoric powder.
		5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
Nickel (CAS 7440-02-0)	TWA	0.015 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m <sup>3</sup>	Dust.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		5 mg/m3	Fume.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Exposure guidelines</b>	Occupational Exposure Limits are not relevant to the current physical form of the product.
<b>Appropriate engineering controls</b>	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.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Chemical respirator with organic vapor cartridge and full facepiece.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Chemical respirator with organic vapor cartridge and full facepiece.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Observe any medical surveillance requirements. 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**

<b>Physical state</b>	Solid.
<b>Form</b>	Paste. Thick grease
<b>Color</b>	Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**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** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Oxidizers.
<b>Hazardous decomposition products</b>	Carbon oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Not a likely route of exposure under normal product handling conditions.
<b>Skin contact</b>	May cause an allergic skin reaction. May cause skin irritation.
<b>Eye contact</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. May irritate and cause stomach pain, vomiting, diarrhea and nausea.

### Information on toxicological effects

**Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test Results
Nickel (CAS 7440-02-0)		
<b>Acute</b>		
<b>Inhalation</b>		
NOAEC	Rat	10200 mg/l, 1 hours
<b>Oral</b>		
LD50	Rat	> 9000 mg/kg
<b>Skin corrosion/irritation</b>	May cause skin irritation.	
<b>Serious eye damage/eye irritation</b>	May cause eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	May cause an allergic skin reaction.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Suspected of causing cancer.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.	
<b>NTP Report on Carcinogens</b>		
Nickel (CAS 7440-02-0)	Reasonably Anticipated to be a Human Carcinogen.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not regulated.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	

<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs (Lungs) through prolonged or repeated exposure by inhalation.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Nickel (CAS 7440-02-0)			
<b>Aquatic</b>			
<i>Chronic</i>			
Crustacea	NOEC	Ceriodaphnia dubia	2.8 µg/l
Fish	NOEC	Zebra danio (Danio rerio)	40 µg/l
Zinc oxide (CAS 1314-13-2)			
<b>Aquatic</b>			
Crustacea	LC50	Water flea (Daphnia magna)	0.098 mg/l, 48 Hours

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

**Bioaccumulative potential** No data available.

**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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**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.

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

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Nickel (CAS 7440-02-0) Listed.

Zinc oxide (CAS 1314-13-2) 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** Respiratory or skin sensitization  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Aluminium	7429-90-5	7 - 13
Nickel	7440-02-0	7 - 13
Zinc oxide	1314-13-2	0.1 - 1

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Nickel (CAS 7440-02-0)

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

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.

**US state regulations****US. Massachusetts RTK - Substance List**

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

Zinc oxide (CAS 1314-13-2)

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

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

Zinc oxide (CAS 1314-13-2)

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

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

Zinc oxide (CAS 1314-13-2)

**US. Rhode Island RTK**

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

Zinc oxide (CAS 1314-13-2)

**California Proposition 65**

**WARNING:** This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Nickel (CAS 7440-02-0)

Listed: October 1, 1989

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

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

**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)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
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	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
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

<b>Issue date</b>	02-May-2016
<b>Revision date</b>	18-June-2024
<b>Version</b>	C
<b>HMIS® ratings</b>	Health: 2* Flammability: 0 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.

### \* Product Codes

ACL-1545-4NN45-EHVHT	ACL2H-1192.5-4NN	ACLH-1108-4NN-EHV	ACLH-1192.5-4NN
ACLH-1216-4NN	ACLH-1216-4NN-EHV	ACLH-1590-4NN45-EHV	ACLH-1762-4NN-EHV
ACLS-1171-4NN-HT	ACLS-1299-4NN15EHVHT	ACLS-1299-4NN45EHVHT	ACLS-1299-4NN90EHVHT
ACLS-1299-4NNEHVHT	ACLS-1632-4NN15EHVHT	ACLS-1632-4NN45EHVHT	ACLS-1632-4NN90EHVHT
ACLS-1632-4NNEHVHT	AYCTH-1382-1382	AYTFH-1216-4NN-EHV	AYTFH-1762-4NN-EHV