



**SAFETY DATA SHEET**

**SECTION 1**

**MATERIAL IDENTIFICATION**

**PRODUCT NAME / DESCRIPTION:** DECK-SIL® EP 1700, Part A Resin  
DECK-SIL® Product for USE under U.S. Patent No. 9,242,269.

**DISTRIBUTED / MANUFACTURED BY:**

Advanced Chemical Technologies, Inc.  
9608 N Robinson  
Oklahoma City, OK 73114

Date: 03/15/2018 (Version 3)  
Phone: (405) 843-2585  
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**SECTION 2**

**HAZARD IDENTIFICATION**

**OSHA/HCS Status:**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

**CLASSIFICATION:**

Skin Corrosion/Irritation:	Category 2
Serious Eye Damage/Eye Irritation:	Category 2A
Skin Sensitizer:	Category 1
Aquatic Hazard (Long-Term)	Category 2

**SIGNAL WORD:**

**WARNING!**

**HAZARD STATEMENTS:**

Causes skin irritation  
May cause an allergic skin reaction

Causes serious eye irritation  
Toxic to aquatic life with long lasting effects.

**HAZARD PICTOGRAMS:**



**PRECAUTIONARY STATEMENTS:**

Wear protective gloves.  
Wear face or eye protection.  
Avoid release to the environment.  
Avoid breathing vapor.  
Wash hands thoroughly after handling.  
Contaminated clothing should not be allowed out of the workplace.  
Collect spillage.  
If on skin: wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.  
If skin irritation or rash occurs, get medical attention.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists, get medical attention.  
Dispose of contents and container in accordance with all local, regional, national and international regulations.

**SECTION 3****HEALTH HAZARDS**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>% W/W</u>
Bisphenol A epoxy resin	25068-38-6	60 – 100
Glycidylether of C12-C14 alcohols	68609-97-2	13 – 30

**SECTION 4****FIRST AID MEASURES****Potential acute health effects:**

<b>Eye contact:</b>	Causes serious eye irritation.
<b>Skin contact:</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Inhalation:</b>	No known significant effects or critical hazards.
<b>Ingestion:</b>	Irritating to mouth, throat and stomach.

**Over-exposure signs and symptoms:**

<b>Eye contact:</b>	Adverse symptoms may include the following: Pain or irritation Watering Redness
<b>Skin contact:</b>	Adverse symptoms may include the following: Irritation Redness
<b>Inhalation:</b>	No specific data.
<b>Ingestion:</b>	No specific data.
<b>Eye contact:</b>	Immediately flush eyes with plenty of water, lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
<b>Skin contact:</b>	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Inhalation:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.
<b>Ingestion:</b>	Wash out mouth with water. Remove dentures, if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the person is conscious, give small quantities of water to drink. Stop if exposed person feels sick, as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

**Indication of immediate medical treatment and special treatment needed, if necessary**

<b>Notes to physician:</b>	No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
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**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## SECTION 5

## FIRE FIGHTING MEASURES

**Flash Point:** Closed cup > 100°C (>212°F) [Data based on tests on similar product]

**Extinguishing media**  
**Suitable extinguishing media:** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None known.

**Specific hazard arising from the chemical:** In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products:** Decomposition products may include the following materials:  
Carbon dioxide  
Carbon monoxide  
Halogenated compounds

**Special protective actions for fire-fighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk thru spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

Wear protective clothing as described in Section 8 of this Safety Data Sheet.

**Containment procedures:** Stop the flow of material, if this is without risk.  
Wear appropriate protective equipment and clothing during clean up.  
Do not allow the spilled product to enter public drainage system or open water sources.

**Clean up procedures:** Sweep up or gather material and place in appropriate container for disposal.  
Wash spill area thoroughly.  
Wear protective equipment during clean up.  
Dispose of collected material according to regulations.

**SECTION 7****HANDLING AND STORAGE**

<b>Protective measures:</b>	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release into the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene:</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities:</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

**SECTION 8****EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Control parameters Appropriate engineering controls:</b>	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
<b>Environmental exposure controls:</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
<b>Individual protection measures Hygiene measures:</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Eye/face protection:</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to avoid liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
<b>Hand protection:</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time for breakthrough for any glove material may be different for different glove manufacturers.

<b>Body protection:</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Other skin protection:</b>	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Respiratory protection:</b>	Use a properly fitted, air-purifying or air-fed respirator complying with and approved standard if a risk assessment indicates this is necessary. 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.
<b>Thermal hazards:</b>	Not available.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Color:	Colorless
Odor:	Slight
Odor Threshold:	No data available
pH:	No data available
Boiling point:	>200°C (>392°F)
Melting point:	No data available
Flash Point:	Closed cup: >100°C (>212°F) [Data based on tests on similar product]
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper Explosion Limit (UEL):	No data available
Lower Explosion Limit (LEL):	No data available
Vapor Pressure:	<0.1 kPa (<0.75 mm Hg) [room temperature]
Vapor Density:	No data available
Relative Density:	No data available
Solubility water:	Practically insoluble
Partition coefficient:	No data available
Autoignition Temperature:	>220°C (>428°F)
Decomposition Temperature:	>200°C (>392°F)
Viscosity (CPS):	No data available

## SECTION 10

## STABILITY AND REACTIVITY

Reactivity:	No specific test data to reactivity available for this product or its ingredients.
Chemical stability:	This product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	No specific data.
Incompatible materials:	No specific data.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11

## TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Acute toxicity

Raw Material	Test	Result	Route	Species
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Bisphenol A epoxy resin	-	LC0 inhalation vapor	0.00001 ppm	Rat – Male
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	>2000 mg/kg	Rat – Male, Female
	OECD 420 Acute Oral Toxicity – Fixed dose method	LD50 Oral	>2000 mg/kg	Rat – Male, Female
Glycidylether of C12-C14 alcohols	-	LC0 inhalation vapor	>0.15 mg/l	Rat
	-	LD50 Dermal	30.1 ml/kg	Rat – Male
ARALDITE GY 9513 US	-	LD50 Oral	>2000 mg/kg	Rat

#### Irritation/Corrosion

Raw Material	Test	Result	Species
Bisphenol A epoxy resin	OECD 404 Acute Dermal Irritation/Corrosion	Skin – Mild irritant	Rabbit
	OECD 405 Acute Eye Irritation/Corrosion	Eyes – Mild irritant	Rabbit
Glycidylether of C12-C14 alcohols	-	Skin – Mild irritant	Rabbit
	-	Eyes – Mild irritant	Rabbit

#### Conclusion/Summary

Skin:	Bisphenol A epoxy resin Glycidylether of C12-C14 alcohols	Irritating to skin Irritating to skin
Eyes:	Bisphenol A epoxy resin Glycidylether of C12-C14 alcohols	Irritating to eyes Slightly irritating to eyes
Respiratory:	Bisphenol A epoxy resin Glycidylether of C12-C14 alcohols	No additional information No additional information

#### Sensitization

Raw Material	Test	Result	Route	Species
Bisphenol A epoxy resin	-	Sensitizing	Skin	Mouse
Glycidylether of C12-C14 alcohols	-	Sensitizing	Skin	Guinea pig
ARALDITE GY 9513 US	-	Sensitizing	Skin	Guinea pig

#### Mutagenicity

Product	Test	Result
Bisphenol A epoxy resin	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Positive
	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/-	Positive
	Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Negative
	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
Glycidylether of C12-C14 alcohols	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative

	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/-	Negative
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### Carcinogenicity

Raw Material	Test	Species	Dose	Exposure	Result
Bisphenol A epoxy resin	OECD 453 Combined chronic toxicity/carcinogenicity studies	Rat-Male, Female	15 mg/kg	2 years; 7 days per week	Negative – Oral – NOAEL
	OECD 453 Combined chronic toxicity/carcinogenicity studies	Rat-Female	1 mg/kg	2 years; 5 days per week	Negative – Dermal – NOAEL
	OECD 453 Combined chronic toxicity/carcinogenicity studies	Mouse – Male	0.1 mg/kg	2 years; 3 days per week	Negative – Dermal – NOAEL

### Reproductive toxicity

Raw Material	Test	Species	Maternal toxicity	Fertility	Developmental effects
Bisphenol A epoxy resin	OECD 416 Two-Generation Reproduction Toxicity study	Rat-Male, Female	Negative	Negative	Negative

### Teratogenicity

Raw Material	Test	Species	Result
Bisphenol A epoxy resin	OECD 414 Prenatal Developmental Toxicity study	Rat-Female	Negative – Oral
	EPA CFR	Rabbit-Female	Negative – Dermal
	OECD 414 Prenatal Developmental Toxicity study	Rabbit-Female	Negative – Oral
Glycidylether of C12-C14 alcohols	OECD 414 Prenatal Developmental Toxicity study	Rat-Female	Negative – Dermal

### Specific target organ toxicity

**Single exposure:** Not available  
**Repeated exposure:** Not available  
**Aspiration hazard:** Not available  
**Information on the likely routes of exposure:** Not available

### Potential acute health effects

Eye contact: Causes serious eye irritation.  
 Inhalation: No known significant effects or critical hazards.  
 Skin contact: Causes skin irritation. May cause an allergic skin reaction.  
 Ingestion: Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:  
 Pain or irritation  
 Watering  
 Redness  
 Inhalation: No specific data.  
 Skin contact: Adverse symptoms may include the following:  
 Irritation  
 Redness  
 Ingestion: No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

Potential immediate effects: Not available  
 Potential delayed effects: Not available

#### Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

**Potential chronic health effects**

Raw Material	Test	Endpoint	Species	Result
Bisphenol A epoxy resin	OECD 408 repeated dose 90-day oral toxicity study in Rodents	Sub-chronic – NOAEL - Oral	Rat – Male, female	50 mg/kg
	OECD 411 Subchronic Dermal Toxicity 90-day study	Sub-chronic – NOAEL - Dermal	Rat – Male, female	10 mg/kg
	OECD 411 Subchronic Dermal Toxicity 90-day study	Sub-chronic – NOAEL - Dermal	Mouse – Male	100 mg/kg
Glycidylether of C12-C14 alcohols	OECD 411 Subchronic Dermal Toxicity 90-day study	Sub-chronic – NOAEL – Dermal	Rat – Male, female	1 mg/kg

**General:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates:** Not available

**Other information:** Not available

**SECTION 12**

**ECOLOGICAL INFORMATION**

Raw Material	Test	Endpoint	Exposure	Species	Result
Bisphenol A epoxy resin	EPA CFR	Acute EC50	72 hours static	Algae	9.4 mg/l
	OECD 202 Acute Immobilization Test	Acute EC 50	48 hours static	Daphnia	1.7 mg/l
	Unknown guidelines	Acute IC50	3 hours static	Bacteria	>100 mg/l
	OECD 203 Acute Toxicity Test	Acute LC50	96 hours static	Fish	1.5 mg/l
	OECD 211 Reproduction Test	Chronic NOEC	21 days semi-static	Daphnia	0.3 mg/l
Glycidylether of C12-C14 alcohols	OECD 202 Acute Immobilization Test	Acute EL50	48 hours static	Daphnia	7.2 mg/l
	OECD 201 Growth Inhibition Test	Acute IC50	72 hours	Algae	843.75 mg/l
	OECD 209 Respiration Inhibition Test	Acute IC50	3 hours	Bacteria	>100 mg/l
	OECD Acute Toxicity Test	Acute LC50	96 hours static	Fish	5000 mg/l

**Persistence and degradability:**

Raw Material	Test	Period	Result
Bisphenol A epoxy resin	OECD derived from OECD 301F (Biodegeneration test)	28 days	5%
Glycidylether of C12-C14 alcohols	OECD 301F Ready Biodegradability – Manometric Respirometry Test	28 days	87%

**Conclusion/Summary:** Bisphenol A epoxy resin: Not Readily biodegradable.

Raw Material	Aquatic Half-life	Photosynthesis	Biodegradability
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Bisphenol A epoxy resin	Fresh water 4.83 days Fresh water 3.58 days Fresh water 7.1 days	-	Not readily
Glycidylether of C12-C14 alcohols	-	-	Readily

**Bioaccumulation potential:**

Raw Material	LogP <sub>ow</sub>	BCF	Potential
Bisphenol A epoxy resin	3.242	31	Low
Glycidylether of C12-C14 alcohols	3.77	-	Low

**Mobility in soil:** No data available  
**Other adverse effects:** No known significant effects or critical hazards.  
**Other ecological information**  
**BOD5:** Not determined  
**COD:** Not determined  
**TOC:** Not determined

**SECTION 13**

**DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management conditions. State and local disposal regulations may differ from federal disposal regulations. Dispose container and unused contents in accordance with federal, state and local requirements.

**SECTION 14**

**TRANSPORT INFORMATION**

Environmentally Hazardous Substance, Liquid, n.o.s.  
 9, UN3082, PG III  
 PLACARD NOT REQUIRED

**SECTION 15**

**REGULATORY INFORMATION**

**US FEDERAL REGULATIONS**

**TSCA 8(b) inventory:** All components are listed or exempt.  
**TSCA 5(a)2 final significant new use rule (SNUR):** No ingredients listed.  
**TSCA 5(e) substance consent order:** No ingredients listed.  
**TSCA 12(b) export notification:** No ingredients listed.  
**SARA 311/312:** Immediate (acute) health hazard.  
**Clean Air Act – Ozone Depleting Substances (ODS):** This product does not contain nor is it manufactured with ozone depleting substances.  
**SARA 313:** No ingredients listed.

Ingredient name	%	Section 304 CERCLA Hazardous Substance Listed	CERCLA Reportable Quantity (LBS)	Product Reportable Quantity (LBS)
1-chloro-2, 3-epoxypropane	0.0008	100	12500000	

**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT):**

**State Regulations**  
**Pennsylvania – RTK:** No ingredients listed.  
**California Prop 65:** **Warning:** This product contains less than 0.1% of a chemical known to the state of California to cause cancer.

**Warning:** This product contains less than 0.1% of a chemical known to the state of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive
1-chloro-2,3-epoxypropane	Yes	Yes

**Canadian Regulations**

**CEPA DSL:**

All components are listed or exempted.

**WHMIS Classes:**

Class D-2B: Material causing other toxic effects (Toxic)

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**Brazil regulations**

**Classification system used:**

Norma ABNT-NBR 14725-2:2012

**International lists**

**Australia inventory (AICS):**

All components are listed or exempted.

**China inventory (IECSC):**

All components are listed or exempted.

**Japan inventory:**

All components are listed or exempted.

**Korea inventory:**

All components are listed or exempted.

**Malaysia inventory (EHS Register):**

Not determined.

**New Zealand Inventory of**

**Chemicals (NZIoC):**

All components are listed or exempted.

**Philippines inventory (PICCS):**

All components are listed or exempted.

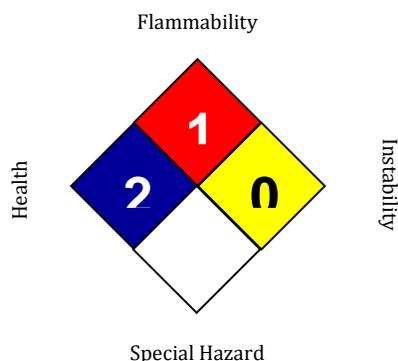
**Taiwan inventory (CSNN):**

Not determined.

**SECTION 16**

**OTHER INFORMATION**

**NFPA:**



**HMIS III:**

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

- 0 = not significant**
- 1 = slight**
- 2 = moderate**
- 3 = high**
- 4 = extreme**
- \* = chronic**

THIS INFORMATION IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.