

Endur-O-Seal USA Inc.

PRODUCT BULLETIN

EOS POLY TOP SEAL CS20

LASTING PROTECTION AGAINST EFFLORESCENCE (Alkali salts & Lime leaching)

PRODUCT NAME: EOS CS20

MANUFACTURER:

ENDUR-O-SEAL USA, Inc.
Pinehurst, Texas 77362
1-800-259-8855

PRODUCT DESCRIPTION:

EOS POLY TOP SEAL CS-20 is a water-based, non flammable polysiloxane sealer. It is specifically engineered for the treatment of vertical or horizontal concrete substrate for the purpose of providing waterproofing and repellency capability. **EOS POLY TOP SEAL CS-20** provides superior long-term performance and protection against physical and structural defamation or deterioration due to the effects of humidity and or contact with moisture or exposure to the elements. In addition it is also resistant to acids and highly alkaline compounds. **CS-20** is designed for use on smooth concrete that is older than *25 years of age and/or exterior applications.*

TECHNOLOGY:

CS20 utilizes unique polysiloxanes coupled with proprietary technologies to provide high performance products that are environmentally safe. This degree of protection is facilitated by increased levels of penetration into the substrate matter. During the curing stage the formula attaches itself to the substrate particles by electrochemical means and acts as a semi permeable membrane which impedes water vapor or liquid from spreading, wetting and absorption through capillary channeling. The resulting semi permeable membrane does not restrict the treated matter from breathing. **CS-20** will significantly reduce or eliminate efflorescence due to its principle function.

PRIMARY BENEFITS

- The natural look and feel of the substrate is not perceptibly altered.
- Non toxic / non-hazardous
- Semi – Homogeneous solution (requires slight agitation prior to application.)
- Poly Masonry Sealer is a penetrating treatment and may temporarily darken the substrate on which it is applied.
- Light citrus odor.
- Prevents the water absorption/retention required for the growth of fungi or algae and reduces the adhesion of dirt and organic pollutants.
- Reduces or eliminates efflorescence.
- Does not restrict the natural breathing ability of the treated matter.
- U.V. (Ultraviolet) resistant / extends product life.
- Very low VOC content: ~ 0.10 lb. per gallon.
- Product performance does not deteriorate at temperatures between -0° F and +470° F.

TECHNICAL DATA

V.O.C. Content:	<0.19 lbs. /Gal
Flashpoint:	>+212°F
Penetration:	0.25 – 1.0 in
U.V. Resistance (QUV 7500 Hrs)	Pass
Breathability ASTM D1653	97.8%
Water Leakage ASTM E514	99.2% Max
NCHRP 244 Chloride Absorption	97.4%
Simulated Wind Driven Rain	Pass

SURFACE PREPARATION

The material to be treated should be dry and free of non-integral dust, dirt, mildew, algae or alkali salts. If being applied to an existing structure, the substrate should be thoroughly washed to remove all efflorescence, dirt, mildew and fungi. Allow adequate time for drying prior to application.

METHOD OF APPLICATION

Poly Top Sealer CS20 can be applied by means of spraying with a conventional, airless (60 psi or below), or Hudson pump up type sprayer. Make sure the masonry, brick and clay substrate to be treated is dry (15% moisture content maximum). Agitate the sealer as indicated on the label; utilize as is. DO NOT dilute or otherwise alter the material.

COVERAGE

Apply in accordance with the rates stated below or per architectural guide specifications. The following are approximate and may vary due to porosity of material to be treated.

- Split-face: 300 square feet per gallon
- Pavers 350 square feet per gallon
- Precast: 400 square feet per gallon
- Poured in Place: 400-450 square feet per gallon

PACKING AND STORAGE

Available in five (5) gallon pails and fifty five (55) gallon drums. Storage should be maintained between 32°F and 100°F and out of direct sunlight.

WARRANTY

The information and recommendations made herein are based on EOS research and that of others and are believed to be accurate. No Guarantee of test accuracy is made due to the considerable number of variables which can affect field application and performance of EOS products including but not limited to surface conditions, job conditions. Users and purchasers are encouraged to determine the suitability of this product for particular purposes. EOS SYSTEMS warrants this product to conform to stated specifications and be free of defects at time of shipment. The company makes no other warranties either express or implied.

CUSTOMER/TECHNICAL SERVICE

EOS SYSTEMS provides a variety of technical services regarding the function and use of EOS product. If you have any questions please contact your EOS sales representative for further information 1-281-259-8855.

SAFETY INFORMATION

Please refer to Material Safety Data Sheet

GUIDE SPECIFICATIONS

PENETRATING SEALERS / WATER REPELLENTS

DESIGN REQUIREMENTS: ENDUR-O-SEAL EOS POLY TOP SEAL CS-2O penetrating sealer protects buildings, bridges and other structures against damage due to water penetration. EOS POLY TOP SEAL CS-2O is applicable on: 1. Precast concrete; 2. Concrete Masonry Units; 3. Poured in Place Concrete; 4. Concrete Pavers; 5. Stucco; 6. Cast Stone. EOS POLY TOP SEAL CS-2O provides long lasting protection against efflorescence (salt or lime leaching), staining due to atmospheric carbons, mold, mildew, metal, salts, chloride penetration, corrosion, acid rain, dampness, and other water related damage. For complete product information call Endur-O-Seal USA, Inc. AT 1-800-259-8855 OR FAX 1-282-356-9332.

PART 1. GENERAL

1.01 SUMMARY

- A. Penetrating Sealers / water repellents

1.02 SUBMITTALS

- A. Follow section 01340
- B. Submit Endur-O-Seal USA, Inc. product data and application instructions

1.03 QUALITY ASSURANCE & CONTROL

- A. Follow section 01400
- B. Applicator/Commercial: Company specializing in applying coatings, waterproofing/repellents with five (5) years minimum experience and approved by manufacturer required. Consult local distributor or Endur-O-Seal USA,/EOS Systems for recommendations.

1.04 FIELD SAMPLES

- A. Field samples should be applied prior to general execution of work to determine visual and physical or chemical effect of sealer. Prepare substrates and apply EOS Poly Top Sealer CS-2O to a 100 square foot area. Apply to locations indicated by architect/designer/engineer. Notify architect/ designer/engineer seven (7) days prior to application of field sample.
- B. Test area samples may remain as part of general work.
- C. Sample shall indicate that there is no change appearance and when water is poured on the sample, the water shall bead or run off and not soak in.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Follow section 01610
- B. Deliver products to site with containers unopened and with manufacturer's seal intact.

1.06PROJECT CONDITIONS

- A. Environmental Requirements: Do not apply EOS Poly Top Sealer CS2O when the following conditions are present, except with written instructions from manufacturer:

- B. Ambient or surface temperature less than 40° F within twenty four (24) hours prior to or following application.
- C. Rain within seventy- two (72) hours prior to application or predicted within twenty- four (24) hours after application.
- D. Wet or frozen substrates
- E. High winds which could cause excessive over spray.

1.07 SCHEDULING

- A. Apply EOS Poly Top Sealer CS2O as early as practical to protect substrates during construction. Do not apply to walls until wall cap is finalized.
- B. Allow joint mortar to cure seven (7) days before treatment. (Based on 70° F & 60% relative humidity)

1.08 WARRANTY

- A. Manufacturer's limited five (5) year warranty. Failure is indicated by water soaking into the substrate surface, when water is placed on surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

Endur-O-Seal USA, Inc./ EOS Systems, 1-800-259-8855 or 281-356-9332 fax.

2.02 MATERIALS

- A. EOS Poly Top Sealer CS2O PLUS: Water based membrane-forming polysiloxane penetrating sealer; this system is non-flammable, non-hazardous and non-toxic.
 - 1. Maximum VOC content; 0.19 lbs/gallon, complies with all applicable regulations regarding VOC's.
 - 2. **Do not dilute or modify** EOS Poly Top Sealer CS-2O, apply as supplied.

2.03 EQUIPMENT

- A. Spray Equipment: 60 psi or below airless, and/or Hudson pump up type. Tip should be fan pattern and of the size (Hudson 80-5R Color Jet) or smaller. Keep equipment and hoses clean and free of foreign contaminants that could obstruct equipment or be deposited on surfaces to be treated. **Note! Do not over saturate!**

PART 3 EXECUTION

3.01 INSTALLATION

- A. Confirm that the substrates have been prepared properly, and weather conditions are suitable for application. Notify architect/designer/engineer in writing of unsatisfactory substrates and conditions. Do not continue until conditions have been corrected in a manner acceptable to applicator.

3.02 PREPARATION

- A. Clean substrates: Remove dirt, oil, wax, curing compounds, efflorescence, coatings and other graffiti matter. Use methods compatible with substrates and required appearance including, as applicable.
1. Sweeping and compressed air blasting
 2. Water blasting
 3. Sandblasting, follow with an air and/or water blast to remove loose particulate.
 4. Detergent scrubbing. Rinse with water and allow to dry.
 5. Chemical cleaners that are residual free and do not interfere with penetrating sealer/repellent. Rinse with water and allow substrate to dry.

If you have questions or concerns, consult Endur-O-Seal USA, Inc at 1-800-259-8855 or FAX 281-356-9332 for information or recommendations.

Always protect glass and non-porous materials. EOS Poly Top Sealer CS2O will not harm plants, asphalt, glass, metal or aluminum. Some plastics, such as polystyrene, will be damaged by EOS Poly Top Sealer. EOS Poly Top Sealer CS2O is compatible with most joint sealants, specific joint sealants should be investigated for adhesion to treated surfaces. Contact Endur-O-Seal USA, Inc for assistance. 1-800-259-8855

- a. Protect against over spray onto glass surfaces, plants, plastic, asphaltic surfaces, painted and polystyrene insulation surfaces.
- b. Protect surfaces against oil/grease/fuel drips caused by cleaning equipment and other contamination of surfaces that are to be tested.

B. JOINT SEALANTS

1. If necessary, install joint sealants as specified in other sections and allow to cure before application of water repellent.
2. If joint sealants are installed after application of EOS Poly Top Sealer CS2O, verify adhesion of joint sealant to treated surfaces, prior to execution of work. If required, protect joint sealant adhesion surfaces against over spray.
3. Install asphaltic joint sealant after application of EOS Poly Top Sealer CS2O.

3.03 APPLICATION

- A. General:
1. Properly clean and dry area to be treated, if unsure as to the best procedure, contact Endur-O-Seal or substrate manufacturer.
 2. The temperature of the substrate should be 40°F – 120°F (4.4 C - 49° C)
 3. The area to be treated should have relative moisture content of less than 15%.
 4. The EOS Poly Top Sealer CS2O should be thoroughly stirred/ mixed prior to application.
 5. Apply a thorough wetting coat in accordance with rates specified below, but **Do Over Not Saturate**.
 6. If applying by spray, motion should be side to side and followed by a crosshatch up and down motion.
 7. On horizontal applications, remove any excess after fifteen (15) minutes from initial application (use clean mop or cotton cloth).
 8. *Treated areas should be kept moisture free for 8-12 hours after application.*

9. *****Always test a sample are prior to application***.**

B. If work is stopped prior to completion, clearly mark location and resume work without any gap in coverage.

C. COVERAGE:

1. Vertical Surfaces:

Precast:	250 (minimum)/ 400 (maximum) sq. ft./Gal.
Poured-in-place:	400 (minimum)/ 450 (maximum) sq. ft./Gal.
CMU (smooth):	250 (Minimum)/ 350 (maximum) sq. ft./Gal.
CMU (Split face):	200 (Minimum)/ 275 (maximum) sq. ft./Gal.
Stucco:	250 (minimum)/ 350 (maximum) sq. ft./Gal.

2. Horizontal Surfaces:

Poured-in-place:	300 (minimum)/ 400 (maximum) sq. ft./Gal.
Pavers:	150 (minimum)/ 300 (maximum) sq. ft./Gal.

3.04 CLEANING

A. Clean overspray on glass or metallic surfaces before evaporation of water. Wipe dry with clean, dry-cloth. If material has cured use a 50/50 mix of denatured alcohol and water and rub with a clean cloth.

3.05 PROTECTION

- A. Do not permit traffic on treated surfaces until EOS Poly Top Sealer CS2O has completely penetrated and the substrate is fully dry.
- B. Treated areas should be kept moisture free for 8-12 hrs after application.
- C. **Always utilize proper industrial hygiene practices.** Adequate ventilation should be provided during application and observe manufacturer's safety instructions. Read MSDS and labels before using.

END OF SECTION

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME:
EOS POLY TOP SEALER CS20

MSDS NUMBER 1

MANUFACTURER:
EOS Systems
Endur-O-Seal USA, Inc.
12502 LAZYWOOD LANE
PINEHURST, TEXAS 77362
TEL (800) 259-8855 /FAX (281) 356-9332

CHEMICAL FAMILY: AQUEOUS POLYSILOXANE DISPERSION – SEALER FORMULA: PROPRIETARY MIXTURE

THESE PRODUCTS ARE AQUEOUS BASED PENETRATING COMPOUNDS FOR WATERPROOFING OF NATURAL AND SYNTHETIC MATERIALS. REFER TO PRODUCT BULLETINS FOR SPECIFIC APPLICATION DATA.

SECTION 2. INGREDIENTS/ COMPOSITION

PRODUCTS/ CAS NUMBER(S)	ACGIH TLV		OSHA PEL		UNITS	APPROX. WGHT. %
	TWA	STEL	TWA	STEL		
CONTAINS ONE OR MORE OF THE FOLLOWING SILANES/SILOXANES: AMINOETHYLAMINOPROPYLPOLYSILOXANES 67923-07-3	NF	NE	NE	NF	NA	MIXTURE 8 – 12
DIMETHYL, HEXYSILOXANES 157709-77-8	NA	NE	NA	NE	NA	
SILANOL/STPD 68554-67-6	NF	NE	NF	NE	NA	
EXPANSION AGENTS (MIXTURE) 68155-38-4 112-90-3	NE	NE	NE	NE	NA	< 2
ALCOHOLS 64-17-5 123-17-1						MIXTURE < 5
CROSSLINKING AGENT 29812-79-1	NE	NE	NE	NE	NA	< 1
DEIONIZED WATER	NE	NE	NE	NE	NA	80 – 84

SECTION 3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

INGESTION:
IRRITATION OF MUCOUS MEMBRANES OF THROAT, ESOPHAGUS AND STOMACH WHICH MAY RESULT IN VOMITTING.

SKIN CONTACT:
NOT SIGNIFICANT: MAY CAUSE MILD SKIN IRRITATION. SKIN CHAPPING MAY DEVELOP AFTER EXTREME REPEATED CONTACT, PROGRESSING TO DERMATITIS IF HANDS ARE NOT WASHED.

INHALATION:

MILD IRRITATION OF THE UPPER RESPIRATORY TRACT POSSIBLE FOLLOWED BY DIZZINESS, HEADACHE.

EYE CONTACT:

MAY CAUSE A MILD BURNING SENSATION/ IRRITATION.

MEDICAL CONDITIONS AGGRAVATED AS STATED ABOVE.

CHRONIC EFFECTS / CARCINOGENICITY:

THIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE IS NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY OSHA, IARC, NTP OR ACGIH.

MEDICAL LIMITATIONS:

RESTRICT CONTACT BY PERSONS WITH ACNE, SKIN SENSITIVITY OR SKIN DISEASE, AS EXTENDED EXPOSURE COULD AGGRAVATE THESE CONDITIONS.

EFFECTS OF OVEREXPOSURE:

ACUTE: CENTRAL NERVOUS SYSTEM DEPRESSION WITH EXTREME EXPOSURE; EFFECTS MAY INCLUDE ANESTHESIA, COMA, RESPIRATORY ARREST. OXYGEN DEPRIVATION IS POSSIBLE IF WORKING IN A CONFINED NON VENTILATED AREA.

CHRONIC: NO KNOWN MAJOR CUMMULATIVE OR LATENT EFFECTS HAVE BEEN REPORTED.

SECTION 4. FIRST AID MEASURES

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS KEEP AIRWAY CLEAR. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

WASH WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHES AND FOOTWEAR. SEEK MEDICAL ATTENTION IF SYMPTOMS ARISE.

INHALATION:

REMOVE TO FRESH AIR, RESTORE BREATHING IF NEEDED; ADMINISTER OXYGEN; SEEK MEDICAL HELP IF REQUIRED.

EYE CONTACT:

FLUSH EYES THOROUGHLY WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. SEEK MEDICAL ATTENTION.

NOTES TO PHYSICIAN:

GASTRIC LAVAGE ONLY IF A LARGE QUANTITY HAS BEEN INGESTED. TREAT SYMPTOMATICALLY.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT:	(AQUEOUS SOLUTION)	>93.5 °C (MIN)	>200 °F (MIN)
METHOD:	TCC		
AUTOIGNITION TEMP:		>482 °C	>900 °F
FLAMMABLE LIMITS IN AIR:			
% BY VOLUME UPPER		N/A	
% BY VOLUME LOWER		N/A	

SENSITIVITY TO MECHANICAL IMPACT: NO

SENSITIVITY TO STATIC DISCHARGE: NONE EXPECTED; MATERIAL HAS A FLASHPOINT ABOVE 200 °F.

EXTINGUISHING MEDIA:

FOAM, DRY CHEMICAL, CARBON DIOXIDE. WATER MAY BE INEFFECTIVE UNLESS USED IN FAVORABLE CONDITIONS BY TRAINED FIREFIGHTERS.

SPECIAL FIREFIGHTING PROCEDURES:

MINIMIZE BREATHING OF GASES, VAPOR FUMES OR DECOMPOSITION PRODUCTS. USE (SCBA) IN ENCLOSED OR CONFINED AREAS. WATER CAN BE USED TO COOL AND PROTECT MATERIALS AND MEN, DISPERSE VAPORS, FLUSH SPILLS AWAY FROM EXPOSURES.

SECTION 6. ACCIDENTAL RELEASE MEASURES

CONFINED AREA TO CLEAN-UP PERSONNEL. VENTILATE AREA AND WEAR PROTECTIVE GEAR AS REQUIRED, WIPE UP SPILL WITH AN INERT MATERIAL AND PLACE IN AN APPROVED CONTAINER FOR DISPOSAL. REMOVE SOURCES OF IGNITION. DISPOSE OF EXPENDED MATERIAL AND ABSORBENTS WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION 7. HANDLING AND STORAGE

- USE A PROPER GROUP STRAP ON HANDLING AND PUMPING EQUIPMENT.
- PREFERABLY UTILIZE EXPLOSION PROOF ELECTRICAL EQUIPMENT.
- RECOMMENDED STORAGE SHOULD BE ABOVE 0 °C (32 °F) AND BELOW 38 °C (100 °F.)
- KEEP ORIGINAL OR STORAGE CONTAINERS CLOSED WHEN NOT IN USE.
- AVOID BREATHING VAPORS.
- AVOID CONTACT WITH SKIN AND EYES.
- USE ONLY IN WELL VENTILATED AREAS.

SECTION 8. PERSONAL PROTECTION/ EXPOSURE LIMITS

RESPIRATORY PROTECTION: USE IN WELL VENTILATED AREA. USE APPROVED NIOSH RESPIRATOR IF TLV IS EXCEEDED.

PROTECTIVE GLOVES: RUBBER

EYE AND FACE PROTECTION: SAFETY GLASSES

ENGINEERING: EXHAUST VENTILATION, SHOWERS, EYE WASH STATIONS

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INITIAL BURNING POINT:	100 °C	212 °F
VAPOR PRESSURE (20 °C)	< 5	
VAPOR DENSITY: (AIR=1)	UNKNOWN	
MELTING POINT:	UNKNOWN	
FREEZING POINT:	0 °C	32 °F
APPEARANCE:	GREY / WHITE HAZY LIQUID	
ODOR:	SLIGHT AMINE / LEMON ODOR	
EVAPORATION RATE (BuAc =1)	< 1	
% VOLATILE BY VOLUME:	83%	
V.O.C. CONTENT BY VOLUME:	< 2%	
V.O.C. CONTENT:	< 0.165 Lb/ Gal	
SPECIFIC GRAVITY (WATER = 1)	1.03 – 1.10	
SOLUBILITY IN H2O AT 20 °C	APPRECIABLE	

SECTION 10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/ COMBUSTION PRODUCTS: FUMES/ SMOKE/ CARBON MONOXIDE/
ALDEHYDES/ SILICON DIOXIDE/ FORMALDEHYDE/
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDANTS/ CONCENTRATED OXYGEN/ SODIUM HYPO CHLORITE/
CALCIUM HYPOCHLORITE.

CONDITIONS TO AVOID: KEEP AWAY FROM HEAT, SPARKS, AND L=FLAMES, AVOID ANY SOURCE OF IGNITION.
AVOID CONTACT WITH ACIDIC, BASIC, OR OXIDIZING AGENTS AND METALLIC CATALYSTS LIKE TIN SOAPS AND NOBLE METALS

SECTION 11. TRANSPORT INFORMATION

DOT SHIPPING NAME: AQUEOUS POLY SILOXANE DISPERSION – SEALER
 DOT HAZARD CLASS: N/A
 PLACARDS: N/A
 DOT I.D. NUMBER: N/A
 REPORTABLE QUANTITY: N/A
 RESTRICTONS: N/A

SECTION 12. REGULATORY INFORMATION

TSCA: THIS MATERIAL OR ITS COMPONENTS ARE LISTED ON THE TSCA INVENTORY LIST AND COMPLY WITH APPLICABLE RULES AS OF THIS WRITING.

SARA 302: NONE FOUND

SARA 311 & 312: NONE FOUND

SARE 312: THIS MATERIAL DOES NOT CONTAIN ANY INGREDIENTS ON THE LIST OF TOXOC CHEMICALS SUBJECT TO SECTION 313 OF THE SUPERFUND AMENDEMENTS AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III), IN EXCESS OF THE APPLICABLE MINIMUM CONCENTRATUONS AS PER SECTION 372.38 (a).

HAZARD RATING SYSTEM:			
MFPA No. 704, 1985 EDITION	0 HEALTH	0 FLAMMABLILITY	0 REACTIVITY
HMIS	0 HEALTH	0 FLAMMABILITY	0 REACTIVITY

SECTION 13. ADDITIONAL INFORMATION

THIS MATERIAL SAFETY DATA SHEET HAS BEEN PREPARED IN ACCORDANCE WITH CFR 1910. 1200. ALL INFORMATION, RECOMMENDATIONS AND SUGGESTIONS APPEARING HEREIN CONCERNING OUR PRODUCT(S) ARE BASED UPON TESTS AND DATA BELIEVED TO BE RELIABLE, HOWEVER, IT IS THE USER’S SOLE RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THE PRODUCTS DESCRIBED HEREIN. SINCE THE ACTUAL USE OF THESE PRODUCTS IS BY OTHERS AND BEYOND OUR CONTROL, NO GUARENTEE EXPRESSED OR IMPLIED IS MADE BY ENDUR-O-SEAL USA, Inc. AS TO THE EFFECTS OF SUCH USE, INCLUDING THE RESULTS TO BE OBTAINED OR THE SAFETY AND TOXICITY OF THE PRODUCTS NOR DOES ENDUR-O-SEAL ASSUME ANY LIABILITY ARISING OUT OF THE USE BY OTHERS OF THE PRODUCTS REFERRED TO HEREIN. NOR IS THE INFORMATION HEREIN TO BE CONSTRUED AS ABSOLUTELY COMPLETE SINCE ADDITIONAL INFORMATION MAY BE NECESSARY OR DESIRABLE WHEN PARTICULAR OR EXCEPTIONAL CONDITIONS OR CIRCUMSTANCES EXIST OR BECAUSE OF APPLICABLE LAWS OR GOVERNMENT REGULATION.

NA = NOT APPLICABLE
 NE = NOT ESTABLISHABLE
 NF = NONE FOUND