SAFETY DATA SHEET

SECTION 1. INDENTIFICATION

Great Lakes Orthodontics
200 Cooper Ave
Tonawanda, NY 14150

716-871-1161
800-828-7626
CHEMTREC: 800-424-9300

Product Name: Grafix Acetate, Ceph Tracing Paper
Product Number: 175-005

Effective Date: 10/22/13

SECTION 2. HAZARDOUS IDENTIFICATION

Potential Health Effects:

Primary Routes of Entry

- Inhalation
- Skin Contact
- Eye Contact

Medical Conditions Aggravated by Exposure

- None.

Human Effects and Symptoms of Overexposure:

Skin

No adverse effects anticipated.

Inhalation

Not applicable.

Eyes

Normal discomfort resulting from foreign bodies in the eye.

Ingestion

No adverse effects expected on prolonged exposure.

General Effects of Exposure

None.

Chronic Effects or Exposure

None known.

Carcinogenicity

No carcinogenic substances as defined by IARC, NTP and / or OSHA.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 4. FIRST AID MEASURES

Eye Contact

No adverse effects anticipated.

Skin Contact

No adverse effects anticipated.

Inhalation

Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.

Ingestion

No adverse effects anticipated.

SECTION 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water, Foam, Sand, Dry powder, Carbon Dioxide (CO2)

Special Fire Fighting Procedures

As with any fire, use breathing apparatus in presence of smoke/fumes.

Unusual Fire / Explosion Hazards

Supports combustion. Flame retardant formulations are available. Potential hazards – clear, smooth flat sheets (similar safety hazards to paper).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Loose waste and scrap material should be swept up for safe disposal.

SECTION 7. HANDLING & STORAGE

Storage temperature

Avoid wide variations in temperature and humidity in the storeroom. Temperatures between 15 °C - 23 °C (59 °F – 73 °F) and a relative humidity between 40% - 65% are the best conditions.

Storage period

As a general rule, Grafix Acetate should be processed promptly. We would recommend that customers process Grafix Acetate within 12 months of its receipt. Particularly for hot and/or humid climates it may be advisable to convert Grafix Acetate within 6 or even 3 months of receipt. Some films will need to be processed in shorter periods to avoid problems. In particular, thicker films over 100µ may suffer unidirectional curl ("roll set") after even a few months storage as rolls. For applications where this might be critical, thicker films should be sheeted as soon as possible after receipt. In case of problems after such periods, Grafix reserves the right to offer compensation in respect of problems arising with film quality.

Handling

When moving pallets of material, always ensure the "forks" of the fork lift truck are long enough to cover the complete base of the pallet. This will ensure the even distribution of the forces throughout the packaging. Avoid damage to the edge of the roll. NEVER stand rolls on end, avoid placing or rolling rolls on the floor. Handle rolls using mandrels inserted into the core. Store by suspending on racks using mandrels. Do not hammer mandrels into the core.

Storage Precautions

Decades of reliable performance have demonstrated that Grafix cellulose diacetate film can be used in its many applications with the confidence that the product provides a consistently high level of quality. However, cellulose diacetate, like all polymers, must be stored appropriately to preserve its performance. Avoid exposure to ketone and ester solvent vapors such as acetone or ethyl acetate. Do not store in bright sunlight.

Further Info on Storage Conditions

None.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation Measures

Fume extraction and fresh air circulation is recommended where solvents are being used during lamination or other finishing processes.

Respiratory Protection

None.

Hand Protection

None.

Eye Protection

None.

Additional Protective Measures

None.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

- **Appearance –** Flat Sheets or rolled film
- **Odor –** Practically Odorless
- **Specific Gravity –** 1.31 ± 0.01
- **Flow Temperature –** Not Applicable
- **Viscosity –** Not applicable
- **Solubility in Water –** Insoluble
- **Equilibrium Water Content –** Circa 2% (in air @ temp. 23 °C, RH 50%)

SECTION 10. STABILITY & REACTIVITY

Hazardous Reactions – Hazardous polymerization will not occur.

Stability – Decomposes circa 250 °C

Materials to Avoid – Low resistance to ketones and esters attacked by moderate to concentrated strong acids and bases. Resistant to non-polar solvents.

Conditions to Avoid – None known

Hazardous Decomposition Products – Carbon Monoxide, Carbon Dioxide, Acetic Acid, Water.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity Data for Copolyester:

Oral toxicity

- LD50: > 8,600 mg/kg (Rat) for Cellulose Diacetate
  9,000 mg/kg (Rat) for DEP

SECTION 12. ECOLOGICAL INFORMATION (non-mandatory)

Raw Materials and the Manufacturing Process

Over 80% of Grafix film is cellulose diacetate. This is derived from natural cellulose sources, cotton linters and wood pulp, from managed forests predominately in North America. We use no hardwoods from endangered rain forests.

Mobility and Degradability

Biodegradation studies indicate around 15% (by wt.) of Grafix film is lost over 28 days. This is thought to be largely due to DEP biodegradation. The two primary constituents of Grafix film (cellulose diacetate and DEP) have long since been recognized as biodegradable.

Recycling

Grafix acetate is suitable for recycling in various forms.

SECTION 13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal Method

Grafix acetate can be recycled, incinerated, or landfilled. There are no known dangers resulting from these methods of disposal. Incineration produces no toxic by-products.

SECTION 14. TRANSPORT INFORMATION (non-mandatory)

- **Land Transport (DOT):** Non - regulated
- **Sea Transport (IMDG):** Non – regulated
- **Air Transport (ICAO/IATA):** Non – regulated

Materials packed on pallets should not be broken down during shipment.

SECTION 15. REGULATORY INFORMATION (non-mandatory)

Not applicable.

SECTION 16. OTHER INFORMATION (non-mandatory)

Not applicable.