

Material Safety Data Sheet
acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

1 Identification of substance

Product details

Trade name: SE-CURE 9603

Application of the substance / the preparation: Encapsulating material

Manufacturer/Supplier:

Northrop Grumman Kester
515 E. Touhy Ave.
Des Plaines, IL 60018

Tel.(847) 297-1600
Fax.(847) 390-9338

Information department:

MSDS Coordinator

Tel. (847) 699-5755

Emergency information:

CHEMTREC 24-Hour Emergency Telephone Number:

(800)424-9300

CHEMTREC 24-Hour Emergency Telephone Number (Outside of the U.S. and Canada):

(703)527-3887

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

872-50-4	N-methyl-2-pyrrolidone	25-50%
25036-25-3	Bisphenol A digcidyl ether - bisphenol A copolymer	25-50%
69278-89-3	Rosin, polymer with glycerol, phthalic anhydride and stearic acid	2.5-10%

3 Hazards identification

WHMIS Hazard Symbols

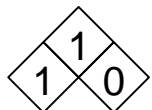


Information pertaining to particular dangers for man and environment:

The product has to be labelled due to the calculation procedure of international guidelines.
Irritating to eyes and skin.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 1
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	1
FIRE	1
REACTIVITY	0

Health = 1
Fire = 1
Reactivity = 0

Material Safety Data Sheet

acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

Trade name: SE-CURE 9603

(Contd. of page 1)

4 First aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Induce vomiting, if person is conscious. Seek medical help.

5 Fire fighting measures

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Nitrogen oxides (NO_x)

Aliphatic aldehydes

Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

Person-related safety precautions: Ensure adequate ventilation

Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with clay, dry sand, or other inert material. Do not use combustible materials such as sawdust. Place in a chemical waste container.

7 Handling and storage

Handling:

Information for safe handling: Store in cool, dry place in tightly closed receptacles.

Information about protection against explosions and fires: Keep respiratory protective device available.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Store at or near -40°C to prolong shelf life.

8 Exposure controls and personal protection

Additional information about design of technical systems: No further data; see item 7.

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

Trade name: SE-CURE 9603

(Contd. of page 2)

Additional information:

PEL = Permissible Exposure Limit (OSHA)
REL = Recommended Exposure Limit (NIOSH)
TLV = Threshold Limit Value (ACGIH)
OSHA = Occupational Safety and Health Administration
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute for Occupational Safety and Health

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Breathing equipment:

When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.

Protection of hands:



Protective gloves

Material of gloves:
Nitrile rubber, NBR
Natural rubber, NR

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

Safety glasses

9 Physical and chemical properties

General Information

Form: Liquid
Color: Dark yellow
Odor: Characteristic

Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

Flash point: > 93°C (> 199°F)

Danger of explosion: Product does not present an explosion hazard.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

Trade name: SE-CURE 9603

(Contd. of page 3)

Vapor pressure at 20°C (68°F): <1 mm Hg

Density at 20°C (68°F): 1.100 g/cm³

Solubility in / Miscibility with Water: Not miscible or difficult to mix.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided: Strong acids, strong oxidizers.

Dangerous reactions No dangerous reactions known.

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Nitrogen oxides

Aldehydes

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

through inhalation: May cause respiratory irritation.

through ingestion: May cause gastrointestinal irritation.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

12 Ecological information

General notes: Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations

Product:

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Disposal must be made according to official regulations.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

Trade name: SE-CURE 9603

(Contd. of page 4)

14 Transport information

DOT regulations:

Hazard class: -
Not regulated.

Land transport ADR/RID (cross-border):

ADR/RID class: -
Not regulated.

Maritime transport IMDG:

IMDG Class: -
Not regulated.

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -
Not regulated.

15 Regulations

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

872-50-4 | N-methyl-2-pyrrolidone

TSCA (Toxic Substances Control Act):

All ingredients are listed.

California Proposition 65

Chemicals known to cause cancer:

WARNING: This product may contain a chemical in trace amounts known to the State of California to cause cancer.

106-89-8 | 1-chloro-2,3-epoxypropane

Chemicals known to cause reproductive toxicity:

WARNING: This product contains a chemical known to the State of California to cause birth defects and/or other reproductive harm.

872-50-4 | N-methyl-2-pyrrolidone

106-89-8 | 1-chloro-2,3-epoxypropane

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Kester

Printing date 09/23/2003

Reviewed on 09/23/2003

Trade name: SE-CURE 9603

(Contd. of page 5)

NTP (National Toxicology Program)
None of the ingredients is listed.
TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

CANADA: The following information relates to product regulation specific to Canada.

Workplace Hazardous Materials Identification (WHMIS):

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Classification:

D2A
D2B

Components on Ingredient List for WHMIS:

N-methyl-2-pyrrolidone

EUROPEAN UNION

The following information relates to product regulation specific to the directives of the European Union.

Risk phrases:

Irritating to eyes and skin.

Safety phrases:

Keep out of the reach of children.
Avoid contact with eyes.
If swallowed, seek medical advice immediately and show this container or label.
Dispose of this material and its container to hazardous or special waste collection point.

16 Other information

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Northrop Grumman Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

Department issuing MSDS: Product Safety
Contact: Heather Holich, MSDS Coordinator

Tel. (847)699-5755