# **MOLYKOTE(R) 55 O-RING GREASE**



Version 3.0

Revision Date: 09/14/2017

SDS Number: 623335-00012

Date of last issue: 03/14/2017 Date of first issue: 10/09/2014

#### **SECTION 1. IDENTIFICATION**

Product name

MOLYKOTE(R) 55 O-RING GREASE

Product code

00000000001889826

## Manufacturer or supplier's details

Company name of supplier

**Dow Corning Corporation** 

Address

South Saginaw Road Midland Michigan 48686

Telephone

(989) 496-6000

Emergency telephone

24 Hour Emergency Telephone: (989) 496-5900

CHEMTREC: (800) 424-9300

#### Recommended use of the chemical and restrictions on use

Recommended use

Lubricants and lubricant additives

#### **SECTION 2. HAZARDS IDENTIFICATION**

## GHS classification in accordance with 29 CFR 1910.1200

Skin sensitization

: Category 1

## **GHS** label elements

Hazard pictograms

**(!**>

Signal Word

Warning

Hazard Statements

H317 May cause an allergic skin reaction.

Precautionary Statements

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P272 Contaminated work clothing must not be allowed out of

the workplace.

P280 Wear protective gloves.

#### Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

#### Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

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## Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

Mixture

Chemical nature

Silicone grease

## Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Lithium stearate	4485-12-5	>= 17 - <= 25
Dihydro-3-(tetrapropenyl)furan-2,5-dione	26544-38-7	>= 0.37 - <= 0.49

#### **SECTION 4. FIRST AID MEASURES**

General advice

In the case of accident or if you feel unwell, seek medical

advice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled

If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact

In case of contact, immediately flush skin with soap and plenty

of water.

Remove contaminated clothing and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact

Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed

If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur.

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and

delayed

May cause an allergic skin reaction.

Protection of first-aiders

First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment

when the potential for exposure exists.

Notes to physician

Treat symptomatically and supportively.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Water spray

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Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media

None known.

Specific hazards during fire fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod- : ucts

Carbon oxides Silicon oxides Formaldehyde Metal oxides

Specific extinguishing methods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment :

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Follow safe handling advice and personal protective

equipment recommendations.

Environmental precautions

Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so.

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

For large spills, provide diking or other appropriate

containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate

container.

Clean up remaining materials from spill with suitable

absorbent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

employed in the cleanup of releases. You will need to

determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

## **SECTION 7. HANDLING AND STORAGE**

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Technical measures

See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation

Use only with adequate ventilation.

Advice on safe handling

Do not get on skin or clothing.

Do not swallow.

Avoid contact with eyes.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure

assessment

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage

Keep in properly labeled containers.

Store in accordance with the particular national regulations.

Materials to avoid

Do not store with the following product types:

Strong oxidizing agents

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Lithium stearate	4485-12-5	TWA	10 mg/m³	ACGIH

## Hazardous components without workplace control parameters

Ingredients	CAS-No.
Dihydro-3-(tetrapropenyl)furan-	26544-38-7
2.5-dione	

**Engineering measures** 

Processing may form hazardous compounds (see section

10).

Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.

## Personal protective equipment

Respiratory protection

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

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Hand protection

Material

: Chemical-resistant gloves

Remarks

Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before

breaks and at the end of workday.

Eye protection

: Wear the following personal protective equipment:

Safety glasses

Skin and body protection

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure

potential.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Hygiene measures

Ensure that eye flushing systems and safety showers are

located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

These precautions are for room temperature handling. Use at

elevated temperature or aerosol/spray applications may

require added precautions.

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance

Grease

Color

white

Odor

slight

Odor Threshold

No data available

рΗ

Not applicable

Melting point/freezing point

No data available

Initial boiling point and boiling :

Not applicable

range

Flash point

> 101.1 °C

Method: closed cup

Evaporation rate

Not applicable

Flammability (solid, gas)

Not classified as a flammability hazard

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Self-ignition

The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure

Not applicable

Relative vapor density

No data available

Relative density

1.1

Solubility(ies)

Water solubility

No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity

Viscosity, dynamic

Not applicable

Explosive properties

Not explosive

Oxidizing properties

The substance or mixture is not classified as oxidizing.

Molecular weight

No data available

Particle size

No data available

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity

Not classified as a reactivity hazard.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reac-

tions

Use at elevated temperatures may form highly hazardous

compounds.

Can react with strong oxidizing agents.

Hazardous decomposition products will be formed at elevated

temperatures.

Conditions to avoid

None known.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Thermal decomposition

Benzene

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Formaldehyde

## **SECTION 11. TOXICOLOGICAL INFORMATION**

## Information on likely routes of exposure

Skin contact Ingestion Eye contact

## **Acute toxicity**

Not classified based on available information.

#### Ingredients:

#### Lithium stearate:

Acute oral toxicity

: LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity

LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Acute oral toxicity

: LD50 (Rat): 2,900 mg/kg

Acute inhalation toxicity

Acute toxicity estimate: 5.5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Expert judgment

#### Skin corrosion/irritation

Not classified based on available information.

## **Product:**

Species: Rabbit

Result: No skin irritation

Remarks: On basis of test data.

## Ingredients:

## Lithium stearate:

Species: Rabbit

Result: No skin irritation

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Species: Rabbit

Result: No skin irritation

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#### Serious eye damage/eye irritation

Not classified based on available information.

## Ingredients:

#### Lithium stearate:

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

## Respiratory or skin sensitization

#### Skin sensitization

May cause an allergic skin reaction.

## Respiratory sensitization

Not classified based on available information.

#### Ingredients:

## Lithium stearate:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: negative

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Test Type: Maximization Test Routes of exposure: Skin contact

Species: Guinea pig Result: positive

Remarks: Based on data from similar materials

Assessment: Probability or evidence of high skin sensitization rate in humans

## Germ cell mutagenicity

Not classified based on available information.

## Ingredients:

#### Lithium stearate:

Genotoxicity in vitro Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

#### Dihydro-3-(tetrapropenyl)furan-2,5-dione:

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Genotoxicity in vitro

Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

## Carcinogenicity

Not classified based on available information.

#### Ingredients:

## Lithium stearate:

Species: Mouse

Application Route: Skin contact Exposure time: 104 weeks

Result: negative

Remarks: Based on data from similar materials

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

**OSHA** 

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

## Reproductive toxicity

Not classified based on available information.

## Ingredients:

#### Lithium stearate:

Effects on fertility

Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Skin contact

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development :

Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Skin contact

Result: negative

Remarks: Based on data from similar materials

# Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Effects on fertility

Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

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Effects on fetal development

Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

## STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

## Repeated dose toxicity

## Ingredients:

#### Lithium stearate:

Species: Rat NOAEL: 88 mg/kg

Application Route: Ingestion Exposure time: 90 Days

Remarks: Based on data from similar materials

Species: Rat

NOAEL: 1,089.75 mg/kg Application Route: Skin contact Exposure time: > 43 Days

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Species: Rat NOAEL: 50 mg/kg LOAEL: 150 mg/kg

Application Route: Ingestion Exposure time: 54 Days

Remarks: Based on data from similar materials

## **Aspiration toxicity**

Not classified based on available information.

## **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

## Ingredients:

#### Lithium stearate:

Toxicity to fish LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

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Remarks: Based on data from similar materials

Toxicity to daphnia and other 👍

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae

EC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to microorganisms

NOEC: 13 mg/l

Exposure time: 28 d

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Toxicity to fish

: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

EC0 (Daphnia magna (Water flea)): 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae

EC50 (Pseudokirchneriella subcapitata (green algae)): 110

Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 33

Exposure time: 96 h

Toxicity to microorganisms

EC50: 800 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

## Persistence and degradability

## Ingredients:

#### Lithium stearate:

Biodegradability

Result: Readily biodegradable.

Biodegradation: 78 % Exposure time: 28 d

Method: OECD Test Guideline 301C

Remarks: Based on data from similar materials

## Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Biodegradability

Result: Not readily biodegradable.

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Biodegradation: 9.9 % Exposure time: 28 d

Method: OECD Test Guideline 301D

Bioaccumulative potential

Ingredients:

Lithium stearate:

Bioaccumulation

Species: Fish

Bioconcentration factor (BCF): 0.12

Remarks: Based on data from similar materials

Dihydro-3-(tetrapropenyl)furan-2,5-dione:

Partition coefficient: n-

: log Pow: > 4.39

octanol/water

Mobility in soil

No data available

Other adverse effects

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS** 

Disposal methods

Resource Conservation and Recovery Act (RCRA)

This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded

in its purchased form.

Waste from residues

Dispose of in accordance with local regulations.

Contaminated packaging

Empty containers should be taken to an approved waste

handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

**SECTION 14. TRANSPORT INFORMATION** 

International Regulations

**UNRTDG** 

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**Domestic regulation** 

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49 CFR

Not regulated as a dangerous good

#### **SECTION 15. REGULATORY INFORMATION**

## **EPCRA - Emergency Planning and Community Right-to-Know**

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

## SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

## SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards

: Respiratory or skin sensitization

**SARA 313** 

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## **US State Regulations**

## Pennsylvania Right To Know

Dimethyl, phenylmethyl siloxane, trimethyl-terminated 63148-52-7 Lithium stearate 4485-12-5 Di(2-ethylhexyl) sebacate 122-62-3

#### California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## California Permissible Exposure Limits for Chemical Contaminants

Lithium stearate 4485-12-5

## The ingredients of this product are reported in the following inventories:

NZIoC

: All ingredients listed or exempt.

REACH

For purchases from Dow Corning EU legal entities, all ingredients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For purchases from non-EU Dow Corning legal entities with the intention to export into EEA please contact your DC

representative/local office.

**TSCA** 

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory

exemption.

**PICCS** 

All ingredients listed or exempt.

KECI

All ingredients listed, exempt or notified.

ENCS/ISHL

All components are listed on ENCS/ISHL or exempted from

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inventory listing.

**IECSC** 

All ingredients listed or exempt.

AICS

All ingredients listed or exempt.

DSL

All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

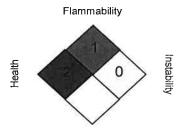
**TCSI** 

All ingredients listed or exempt.

#### **SECTION 16. OTHER INFORMATION**

## **Further information**

#### NFPA:



Special hazard.

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

#### Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA

8-hour, time-weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemical

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cals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate: NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals: OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG -United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Revision Date

09/14/2017

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8

:9			