

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/11/2019

Reviewed on 07/11/2019

1 Identification

- **Product identifier**
- **Trade name:** MILBOND PRIMER KIT
- **Article number:** S12800(Pt.A), S12802
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

cyclohexanone

strontium chromate

n-butyl acetate

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Quartz (SiO₂)

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

May cause cancer.

May cause drowsiness or dizziness.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:		
123-86-4	n-butyl acetate	>10-≤25%
78-93-3	METHYL ETHYL KETONE	>10-≤25%
14808-60-7	Quartz (SiO ₂)	>10-≤25%
7789-06-2	strontium chromate	>10-≤25%
108-94-1	cyclohexanone	>10-≤25%
71-36-3	n-Butyl Alcohol	>2.5-≤10%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- **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:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

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Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

123-86-4	n-butyl acetate	5 ppm
78-93-3	METHYL ETHYL KETONE	200 ppm
14808-60-7	Quartz (SiO ₂)	0.075 mg/m ³
108-94-1	cyclohexanone	60 ppm
71-36-3	n-Butyl Alcohol	60 ppm

· **PAC-2:**

123-86-4	n-butyl acetate	200 ppm
78-93-3	METHYL ETHYL KETONE	2700* ppm
14808-60-7	Quartz (SiO ₂)	33 mg/m ³
108-94-1	cyclohexanone	830 ppm
71-36-3	n-Butyl Alcohol	800 ppm

· **PAC-3:**

123-86-4	n-butyl acetate	3000* ppm
78-93-3	METHYL ETHYL KETONE	4000* ppm
14808-60-7	Quartz (SiO ₂)	200 mg/m ³
108-94-1	cyclohexanone	5000* ppm
71-36-3	n-Butyl Alcohol	8000** ppm

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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· *Specific end use(s)* No further relevant information available.

8 Exposure controls/personal protection

· *Additional information about design of technical systems:* No further data; see item 7.· *Control parameters*· *Components with limit values that require monitoring at the workplace:*

123-86-4 n-butyl acetate

PEL Long-term value: 710 mg/m³, 150 ppmREL Short-term value: 950 mg/m³, 200 ppmLong-term value: 710 mg/m³, 150 ppmTLV Short-term value: 712 mg/m³, 150 ppmLong-term value: 238 mg/m³, 50 ppm

78-93-3 METHYL ETHYL KETONE

PEL Long-term value: 590 mg/m³, 200 ppmREL Short-term value: 885 mg/m³, 300 ppmLong-term value: 590 mg/m³, 200 ppmTLV Short-term value: 885 mg/m³, 300 ppmLong-term value: 590 mg/m³, 200 ppm

BEI

14808-60-7 Quartz (SiO₂)

PEL Long-term value: 0.05* mg/m³
resp. dust; 30mg/m³/%SiO₂+2REL Long-term value: 0.05 mg/m³
respirable dust; See Pocket Guide App. ATLV Long-term value: 0.025 mg/m³
*as respirable fraction

7789-06-2 strontium chromate

PEL Long-term value: 0.005 mg/m³
as Cr, see 29 CFR 1910.1026REL Long-term value: 0.001 mg/m³
as Cr(VI); see Pocket Guide Apps. A + CTLV Short-term value: 0.0005 mg/m³
Long-term value: 0.0002 mg/m³
as Cr; inhalable, Skin; BEI, DSEN, RSEN

108-94-1 cyclohexanone

PEL Long-term value: 200 mg/m³, 50 ppmREL Long-term value: 100 mg/m³, 25 ppm
SkinTLV Long-term value: 50 mg/m³, 20 ppm
Skin

71-36-3 n-Butyl Alcohol

PEL Long-term value: 300 mg/m³, 100 ppmREL Ceiling limit value: 150 mg/m³, 50 ppm
SkinTLV Long-term value: 61 mg/m³, 20 ppm

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· **Ingredients with biological limit values:**

78-93-3 METHYL ETHYL KETONE

BEI 2 mg/L
 Medium: urine
 Time: end of shift
 Parameter: MEK

7789-06-2 strontium chromate

BEI 25 µg/L
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: Total chromium (fume)

10 µg/L
 Medium: urine
 Time: increase during shift
 Parameter: Total chromium (fume)

108-94-1 cyclohexanone

BEI 80 mg/L
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: 1,2-Cyclohexanediol with hydrolysis (nonspecific, semi-quantitative)

8 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Cyclohexanol with hydrolysis (nonspecific, semi-quantitative)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **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.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- **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

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Color: Yellow

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 79 °C (174.2 °F)

- **Flash point:** -6 °C (21.2 °F)

- **Flammability (solid, gaseous):** Not flammable.

- **Ignition temperature:** 370 °C (698 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 1.2 Vol %

Upper: 11.5 Vol %

- **Vapor pressure at 20 °C (68 °F):** 105 hPa (78.8 mm Hg)

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

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· Solvent content:	
Organic solvents:	51.4 %
VOC content:	51.35 %
	513.5 g/l / 4.29 lb/gal
· Solids content: 0.0 %	
· Other information No further relevant information available.	

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

108-94-1 cyclohexanone

Oral	LD50	1,535 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
 Harmful
 Irritant
 Carcinogenic.

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

14808-60-7	Quartz (SiO ₂)	I
7789-06-2	strontium chromate	I
108-94-1	cyclohexanone	3

· **NTP (National Toxicology Program)**

14808-60-7	Quartz (SiO ₂)	K
7789-06-2	strontium chromate	K

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· **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|----------------------------------|--|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1263 |
| · UN proper shipping name | |
| · DOT | Paint |
| · ADR | 1263 PAINT, ENVIRONMENTALLY HAZARDOUS |
| · IMDG | PAINT (strontium chromate), MARINE POLLUTANT |
| · IATA | PAINT |

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· **Transport hazard class(es)**· **DOT**

· **Class** 3 Flammable liquids
 · **Label** 3

· **ADR, IMDG**

· **Class** 3 Flammable liquids
 · **Label** 3

· **IATA**

· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**· **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: strontium chromate

· **Marine pollutant:** Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids

· **Danger code (Kemler):** 33

· **EMS Number:** F-E,S-E

· **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 5 L
 On cargo aircraft only: 60 L

· **ADR**

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)** 5L

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· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1263 PAINT, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

78-93-3 METHYL ETHYL KETONE

7789-06-2 strontium chromate

71-36-3 n-Butyl Alcohol

· **TSCA (Toxic Substances Control Act):**

119796-38-2	(Fatty acids, C18-unsatd, dimers, polymers with bisphenol A, epichlorohydrin and 1,1-methylenebis(4-isocyanatobenzene)) Epoxy terminated urethane w/diphenyl methane dii	ACTIVE
-------------	--	--------

123-86-4 n-butyl acetate

ACTIVE

78-93-3 METHYL ETHYL KETONE

ACTIVE

14808-60-7 Quartz (SiO₂)

ACTIVE

7789-06-2 strontium chromate

ACTIVE

108-94-1 cyclohexanone

ACTIVE

71-36-3 n-Butyl Alcohol

ACTIVE

· **Hazardous Air Pollutants**

7789-06-2 strontium chromate

· **Proposition 65**· **Chemicals known to cause cancer:**14808-60-7 Quartz (SiO₂)

7789-06-2 strontium chromate

· **Chemicals known to cause reproductive toxicity for females:**

7789-06-2 strontium chromate

· **Chemicals known to cause reproductive toxicity for males:**

7789-06-2 strontium chromate

· **Chemicals known to cause developmental toxicity:**

7789-06-2 strontium chromate

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

78-93-3 METHYL ETHYL KETONE

I

7789-06-2 strontium chromate

A(inh), D(oral), K/L(inh), CBD(oral)

71-36-3 n-Butyl Alcohol

D

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· TLV (Threshold Limit Value established by ACGIH)		
14808-60-7	Quartz (SiO ₂)	A2
7789-06-2	strontium chromate	A2
108-94-1	cyclohexanone	A3
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
14808-60-7	Quartz (SiO ₂)	
7789-06-2	strontium chromate	

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

cyclohexanone

strontium chromate

n-butyl acetate

Quartz (SiO₂)

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

May cause cancer.

May cause drowsiness or dizziness.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 07/11/2019 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: **Threshold Limit Value**

PEL: **Permissible Exposure Limit**

REL: **Recommended Exposure Limit**

BEI: **Biological Exposure Limit**

Flam. Liq. 2: **Flammable liquids – Category 2**

Acute Tox. 4: **Acute toxicity – Category 4**

Eye Irrit. 2A: **Serious eye damage/eye irritation – Category 2A**

Carc. 1A: **Carcinogenicity – Category 1A**

STOT SE 3: **Specific target organ toxicity (single exposure) – Category 3**