

SAFETY DATA SHEETS

This SDS packet was issued with item:

071385608

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

071385566 071385657 071385699

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

1 Identification

- **Product identifier**
- **Trade name:** EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)
- **Relevant identified uses of the substance or mixture and uses advised against**

Dental material
The product is intended for professional use.
To avoid risks for humans and environment obtain instructions.
- **Application of the substance / the mixture** Dental impression material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

GC America Inc.
3737 W. 127th Street
Alsip, IL 60803
USA

SDS.gcamerica@gc.dental
- **Information department:** Regulatory Affairs
- **Emergency telephone number:**

During normal opening times (Monday–Friday 8:00 AM–5:00 PM Central Time): +1 (708) 597-0900
Transportation (CHEMTREC®) Emergency Telephone No. +1 (800) 424-9300


2 Hazard(s) identification

- **Classification of the substance or mixture**

Eye Irrit. 2A H319 Causes serious eye irritation.
- **Additional information:**

The information provided is in regards to the toxicity and hazard rating(s) of the individual component(s) in the formulation. The associated risk(s) depends on the route(s) of exposure. The hazard rating system is based entirely on the existence of the risk(s) and does not take into account the likelihood of reduced risk(s) through proper usage and handling.

Avoid using this product with patients having known silicone allergies.
- **Label elements**
- **GHS label elements**

Exempt from labeling – medical devices and drugs do not require labeling according to HCS 2012.
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

- **Signal word** Warning
- **Hazard statements**

Causes serious eye irritation.
- **Precautionary statements**

Wash thoroughly after handling.
Wear eye protection / face protection.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 1)

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

If eye irritation persists: Get medical advice/attention.

- **Hazard(s) not otherwise classified (HNOC):** None known.
- **Additional information:**
3 % of the mixture consists of component(s) of unknown toxicity.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	25 – < 50%
CAS: 68037-59-2	methylhydrogen dimethylpolysiloxane	2.5 – < 5%

- **Additional information:**

Concentrations of dangerous components are expressed in percent by weight (% w/w).

If a substance is marked with **, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
If symptoms persist consult doctor.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Rinse with warm water.
If symptoms persist consult doctor.
- **After eye contact:**
Protect unharmed eye.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 2)

- **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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Remove persons from danger area.
Avoid contact with the eyes and skin.
Wear protective clothing.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Absorb liquid components with liquid-binding material.
Dispose of the collected material according to regulations.
- **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**
Protective Action Criterion (PAC); Protective Action Criteria (PACs); Lower Explosive Limit (LEL)
* indicates the PAC value is between 10% and up to 50% of the LEL (10% LEL ≤ PAC < 50% LEL).
** indicates the PAC value is between 50% and up to 100% of the LEL (50% LEL ≤ PAC < 100% LEL).
*** indicates the PAC value is at 100% or more of the LEL (PAC ≥ LEL).
excerpt from Introduction to PAC Table 2 – PAC Rev. 29 – May 2016

- **PAC-1:**

CAS: 68083-19-2	vinyl dimethylpolysiloxane	48 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	18 mg/m ³
CAS: 68037-59-2	methylhydrogen dimethylpolysiloxane	30 mg/m ³

- **PAC-2:**

CAS: 68083-19-2	vinyl dimethylpolysiloxane	530 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	200 mg/m ³
CAS: 68037-59-2	methylhydrogen dimethylpolysiloxane	330 mg/m ³

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 3)

· PAC-3:		
CAS: 68083-19-2	vinyl dimethylpolysiloxane	3,200 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	1,200 mg/m ³
CAS: 68037-59-2	methylhydrogen dimethylpolysiloxane	2,000 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Observe instructions for use.
Avoid contact with the eyes and skin.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Observe instructions for use / storage.
- **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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing.
- **Breathing equipment:**



Suitable respiratory protective device recommended.

- **Protection of hands:**



Protective gloves

- **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

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 4)

substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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:**



Safety glasses

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Pasty
Color:	Blue
· Odor:	Odorless
· Odor threshold:	Not determined.

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

- **Change in condition**

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

- **Flash point:** Not applicable.

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

- **Ignition temperature:** Not applicable.

- **Decomposition temperature:** Not determined.

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

- **Danger of explosion:** Not determined.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure:** Not determined.

· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

Water: Insoluble.

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

- **Viscosity:**

Dynamic: Not determined.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 5)

Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0 %
VOC content:	0.00 %
· Solids content:	44.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable at ambient temperature.
- **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:**
Carbon dioxide
Carbon monoxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No further relevant information available.
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Symptoms related to the physical, chemical and toxicological characteristics:**
No further relevant information available.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Numerical measures of toxicity:**
No ATEmix is calculated because ingredients of the mixture with LD50 or LC50 values are not considered relevant because of low concentration, a less severe acute toxicity category, or both. (ATEmix is the acute toxicity estimate of the mixture.)
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)	
silicon dioxide, amorphous (gel or precipitated)	3
C.I. Pigment Blue 28	2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 6)

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

None of the ingredients is listed.

· **Carcinogenic categories' legend:**

IARC Group 1: The agent is carcinogenic to humans.

IARC Group 2A: The agent is probably carcinogenic to humans.

IARC Group 2B: The agent is possibly carcinogenic to humans.

IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.

IARC Group 4: The agent is probably not carcinogenic to humans.

NTP K: Known to be human carcinogen.

NTP R: Reasonably anticipated to be human carcinogen.

· **Additional carcinogenic information:** No further relevant information available.

· **Repeated dose toxicity.** No further relevant information available.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

No further relevant information available.

No further relevant information available.

· **Germ cell mutagenicity** No further relevant information available.

· **Carcinogenicity** No further relevant information available.

· **Reproductive toxicity** No further relevant information available.

· **Specific target organ toxicity - single exposure** No further relevant information available.

· **Specific target organ toxicity - repeated exposure** No further relevant information available.

· **Aspiration hazard** No further relevant information available.

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.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German regulation, AwSV) (Self-assessment): slightly hazardous to water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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:**

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

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 7)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|-----------------|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class | Not regulated. |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| <ul style="list-style-type: none"> · UN "Model Regulation": | Not regulated. |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act)**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

C.I. Pigment Blue 28

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

vinyl dimethylpolysiloxane	ACTIVE
methylhydrogen dimethylpolysiloxane	ACTIVE
alcohols, C12-15, ethoxylated	ACTIVE
C.I. Pigment Blue 28	ACTIVE

- **Additional information:**

If a substance is marked with **, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

- **Hazardous Air Pollutants**

CAS: 1345-16-0 | C.I. Pigment Blue 28

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 8)

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **EPA carcinogenic categories' legend:**

EPA weight-of-evidence (WoE): official codes and categories from EPA's 1986 guidelines and unofficial, derived codes from EPA's standard hazard descriptors from 1996, 1999, and 2005 guidelines

A: human carcinogen (1986)

B1: probable human carcinogen – based on limited evidence of carcinogenicity in humans (1986)

B2: probable human carcinogen – based on sufficient evidence of carcinogenicity in animals (1986)

C: possible human carcinogen (1986)

D: not classifiable as to human carcinogenicity (1986)

E: evidence of non-carcinogenicity for humans (1986)

CaH: carcinogenic to humans

CBD: carcinogenic potential cannot be determined

I: data are inadequate for an assessment of human carcinogenic potential

II: inadequate information to assess carcinogenic potential

K/L: known/likely human carcinogen

L: likely to be carcinogenic to humans

NL: not likely to be carcinogenic to humans

S: suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential

SC: suggestive evidence of carcinogenic potential

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **ACGIH carcinogenic categories' legend:**

A1: confirmed human carcinogen

A2: suspected human carcinogen

A3: confirmed animal carcinogen with unknown relevance to humans

A4: not classifiable as a human carcinogen

A5: not suspected as a human carcinogen

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

Exempt from labeling – medical devices and drugs do not require labeling according to HCS 2012.
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



(Contd. on page 10)

-US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 9)

- **Signal word** Warning
- **Hazard statements**
Causes serious eye irritation.
- **Precautionary statements**
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Department issuing SDS:** Regulatory Affairs
- **Contact:**
Regulatory Affairs
Telephone No. +1 (708) 597-0900
SDS.gcamerica@gc.dental
- **Date of preparation / last revision** 08/20/2021 / -
- **Abbreviations and acronyms:**
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HCS: Hazard Communication Standard (USA)
MSDS: Material Safety Data Sheet
SDS: Safety Data Sheet
ADN: Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ECHA: European Chemicals Agency
OSHA: Occupational Safety and Health Administration (USA)
PAC: Protective Action Criterion (USA)
PACs: Protective Action Criteria (USA)
HNOC: Hazard Not Otherwise Classified (USA)
LEL: Lower Explosive Limit
UEL: Upper Explosive Limit
OSHA-Ca: Occupational Safety and Health Administration – Carcinogens or potential carcinogens regulated (USA)
NIOSH-Ca: National Institute for Occupational Safety and Health – Carcinogen List (USA)
NIOSH: National Institute for Occupational Safety and Health (USA)
TSCA: Toxic Substances Control Act (USA)
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water) (Germany)
NOEC: No Observed Effect Concentration
ADR: Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG Code: International Maritime Dangerous Goods Code
DOT: Department of Transportation (USA)
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
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
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- **Sources**
 - Manufacturers' MSDSs/SDSs
 - OSHA (<https://www.osha.gov/dts/chemicalsampling/toc/chmcas.html>)
 - PubChem (<https://pubchem.ncbi.nlm.nih.gov/>)

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Base) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 10)

- ECHA (<http://echa.europa.eu/>)
- EnviChem (www.echemportal.org)

Notes:

CAS Registry Number® is a registered trademark of the American Chemical Society.
CHEMTREC® is a registered service mark of the American Chemistry Council, Inc.

Disclaimer:

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US



Safety Data Sheet

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Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

1 Identification

- **Product identifier**
- **Trade name:** EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)
- **Relevant identified uses of the substance or mixture and uses advised against**

Dental material
The product is intended for professional use.
To avoid risks for humans and environment obtain instructions.
- **Application of the substance / the mixture** Dental impression material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

GC America Inc.
3737 W. 127th Street
Alsip, IL 60803
USA

SDS.gcamerica@gc.dental
- **Information department:** Regulatory Affairs
- **Emergency telephone number:**

During normal opening times (Monday–Friday 8:00 AM–5:00 PM Central Time): +1 (708) 597-0900
Transportation (CHEMTREC®) Emergency Telephone No. +1 (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**

Eye Irrit. 2B H320 Causes eye irritation.
- **Additional information:**

The information provided is in regards to the toxicity and hazard rating(s) of the individual component(s) in the formulation. The associated risk(s) depends on the route(s) of exposure. The hazard rating system is based entirely on the existence of the risk(s) and does not take into account the likelihood of reduced risk(s) through proper usage and handling.

Avoid using this product with patients having known silicone allergies.
- **Label elements**
- **GHS label elements**

Exempt from labeling – medical devices and drugs do not require labeling according to HCS 2012.
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** Void
- **Signal word** Warning
- **Hazard statements**

Causes eye irritation.
- **Precautionary statements**

Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
- **Hazard(s) not otherwise classified (HNOC):** None known.

(Contd. on page 2)

US

Safety Data Sheet

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(Contd. of page 1)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	25 – < 50%
------------------	--	------------

- **Additional information:**

Concentrations of dangerous components are expressed in percent by weight (% w/w).

If a substance is marked with **, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
If symptoms persist consult doctor.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Rinse with warm water.
If symptoms persist consult doctor.
- **After eye contact:**
Protect unharmed eye.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

(Contd. on page 3)

-US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 2)

- **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide

- **Advice for firefighters**

- **Protective equipment:** Wear self-contained respiratory protective device.

- **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Avoid contact with the eyes and skin.

Wear protective clothing.

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

- **Methods and material for containment and cleaning up:**

Absorb liquid components with liquid-binding material.

Dispose of the collected material according to regulations.

- **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**

Protective Action Criterion (PAC); Protective Action Criteria (PACs); Lower Explosive Limit (LEL)

* indicates the PAC value is between 10% and up to 50% of the LEL (10% LEL ≤ PAC < 50% LEL).

** indicates the PAC value is between 50% and up to 100% of the LEL (50% LEL ≤ PAC < 100% LEL).

*** indicates the PAC value is at 100% or more of the LEL (PAC ≥ LEL).

excerpt from Introduction to PAC Table 2 – PAC Rev. 29 – May 2016

- **PAC-1:**

CAS: 68083-19-2	vinyl dimethylpolysiloxane	48 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	18 mg/m ³

- **PAC-2:**

CAS: 68083-19-2	vinyl dimethylpolysiloxane	530 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	200 mg/m ³

- **PAC-3:**

CAS: 68083-19-2	vinyl dimethylpolysiloxane	3,200 mg/m ³
CAS: 112926-00-8	silicon dioxide, amorphous (gel or precipitated)	1,200 mg/m ³

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Observe instructions for use.

Avoid contact with the eyes and skin.

- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Observe instructions for use / storage.
- **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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing.
- **Breathing equipment:**



Suitable respiratory protective device recommended.

- **Protection of hands:**



Protective gloves

- **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.
- **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.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 4)

· **Eye protection:**



Safety glasses

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Pasty
· Color:	Yellowish
· Odor:	Odorless
· Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

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

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Insoluble.

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

· **Viscosity:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Solvent content:**

· **Organic solvents:** 0 %

· **VOC content:** 0.00 %

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 5)

Solids content: 44.6 %

· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable at ambient temperature.
- **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:**
Carbon dioxide
Carbon monoxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No further relevant information available.
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Symptoms related to the physical, chemical and toxicological characteristics:**
No further relevant information available.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Numerical measures of toxicity:**
No ATEmix is calculated because ingredients of the mixture with LD50 or LC50 values are not considered relevant because of low concentration, a less severe acute toxicity category, or both. (ATEmix is the acute toxicity estimate of the mixture.)
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**

silicon dioxide, amorphous (gel or precipitated)	3
C.I. Pigment Yellow 53	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

- **Carcinogenic categories' legend:**
IARC Group 1: The agent is carcinogenic to humans.
IARC Group 2A: The agent is probably carcinogenic to humans.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 6)

- IARC Group 2B: The agent is possibly carcinogenic to humans.
- IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.
- IARC Group 4: The agent is probably not carcinogenic to humans.
- NTP K: Known to be human carcinogen.
- NTP R: Reasonably anticipated to be human carcinogen.
- **Additional carcinogenic information:** No further relevant information available.
- **Repeated dose toxicity.** No further relevant information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
No further relevant information available.
- **Germ cell mutagenicity** No further relevant information available.
- **Carcinogenicity** No further relevant information available.
- **Reproductive toxicity** No further relevant information available.
- **Specific target organ toxicity - single exposure** No further relevant information available.
- **Specific target organ toxicity - repeated exposure** No further relevant information available.
- **Aspiration hazard** No further relevant information available.

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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German regulation, AwSV) (Self-assessment): slightly hazardous to water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:**
Dispose of contents / container in accordance with local / regional / national / international regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** Not regulated.

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 7)

· UN proper shipping name · DOT, ADR, IMDG, IATA	Not regulated.
· Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class	Not regulated.
· Packing group · DOT, ADR, IMDG, IATA	Not regulated.
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Not regulated.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act)**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

C.I. Pigment Yellow 53

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

vinyl dimethylpolysiloxane	ACTIVE
C.I. Pigment Yellow 53	ACTIVE

· **Additional information:**

If a substance is marked with **, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

· **Hazardous Air Pollutants**

CAS: 8007-18-9 | C.I. Pigment Yellow 53

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 8)

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **EPA carcinogenic categories' legend:**

EPA weight-of-evidence (WoE): official codes and categories from EPA's 1986 guidelines and unofficial, derived codes from EPA's standard hazard descriptors from 1996, 1999, and 2005 guidelines

A: human carcinogen (1986)

B1: probable human carcinogen – based on limited evidence of carcinogenicity in humans (1986)

B2: probable human carcinogen – based on sufficient evidence of carcinogenicity in animals (1986)

C: possible human carcinogen (1986)

D: not classifiable as to human carcinogenicity (1986)

E: evidence of non-carcinogenicity for humans (1986)

CaH: carcinogenic to humans

CBD: carcinogenic potential cannot be determined

I: data are inadequate for an assessment of human carcinogenic potential

II: inadequate information to assess carcinogenic potential

K/L: known/likely human carcinogen

L: likely to be carcinogenic to humans

NL: not likely to be carcinogenic to humans

S: suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential

SC: suggestive evidence of carcinogenic potential

- **TLV (Threshold Limit Value)**

C.I. Pigment Yellow 53

A4

- **ACGIH carcinogenic categories' legend:**

A1: confirmed human carcinogen

A2: suspected human carcinogen

A3: confirmed animal carcinogen with unknown relevance to humans

A4: not classifiable as a human carcinogen

A5: not suspected as a human carcinogen

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements**

Exempt from labeling – medical devices and drugs do not require labeling according to HCS 2012.

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

- **Hazard pictograms** Void

- **Signal word** Warning

- **Hazard statements**

Causes eye irritation.

- **Precautionary statements**

Wash thoroughly after handling.

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

If eye irritation persists: Get medical advice/attention.

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

16 Other information

- **Department issuing SDS:** Regulatory Affairs

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 08/20/2021

Version US-EN-Rev 1

Reviewed on 08/20/2021

Trade name: EXA Advanced (Regular) (Catalyst) (Normal Set / Fast Set, Cartridge/Tube)

(Contd. of page 9)

• **Contact:**

Regulatory Affairs
Telephone No. +1 (708) 597-0900
SDS.gcamerica@gc.dental

• **Date of preparation / last revision** 08/20/2021 / -

• **Abbreviations and acronyms:**

GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HCS: Hazard Communication Standard (USA)
MSDS: Material Safety Data Sheet
SDS: Safety Data Sheet
ADN: Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ECHA: European Chemicals Agency
OSHA: Occupational Safety and Health Administration (USA)
PAC: Protective Action Criterion (USA)
PACs: Protective Action Criteria (USA)
HNOC: Hazard Not Otherwise Classified (USA)
LEL: Lower Explosive Limit
UEL: Upper Explosive Limit
OSHA-Ca: Occupational Safety and Health Administration – Carcinogens or potential carcinogens regulated (USA)
NIOSH-Ca: National Institute for Occupational Safety and Health – Carcinogen List (USA)
NIOSH: National Institute for Occupational Safety and Health (USA)
TSCA: Toxic Substances Control Act (USA)
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water) (Germany)
NOEC: No Observed Effect Concentration
ADR: Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG Code: International Maritime Dangerous Goods Code
DOT: Department of Transportation (USA)
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
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
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

• **Sources**

- Manufacturers' MSDSs/SDSs
- OSHA (<https://www.osha.gov/dts/chemicalsampling/toc/chmcas.html>)
- PubChem (<https://pubchem.ncbi.nlm.nih.gov/>)
- ECHA (<http://echa.europa.eu/>)
- EnviChem (www.echemportal.org)

• **Notes:**

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