

Crystex(TM) HS OT 20

Customer PO: 11007

Version	Revision Date:	SDS Number:	Date of last issue: 05/12/2022
2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0530	NC6 / 0091335818 / 0004342234

SECTION 1. IDENTIFICATION

Product name : Crystex(TM) HS OT 20

Product code : P3403706

Manufacturer or supplier's details

Company name of supplier : Flexsys America L.P.

Address : 260 Springside Drive
Akron OH 44333-2433

Emergency telephone : CHEMTREC: +1 703-741-5970

Recommended use of the chemical and restrictions on use

Recommended use : Vulcanizing agent

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Combustible dust

GHS label elements

Signal Word : Warning

Hazard Statements : May form combustible dust concentrations in air.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
No smoking.
P243 Take action to prevent static discharges.**Disposal:**

P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

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2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
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Chemical name	CAS-No.	Concentration (% w/w)
alpha.-methylstyrene	98-83-9	>= 0.1 - < 0.3
Actual concentration is withheld as a trade secret		

Flexsys is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Flexsys' Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove person to fresh air and keep comfortable for breathing.
Get medical attention if symptoms occur.
If breathing is difficult, give oxygen.
- In case of skin contact : Wash off with soap and plenty of water.
Get medical attention if symptoms occur.
Wash contaminated clothing before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
Get medical attention if symptoms occur.
- If swallowed : Rinse mouth.
Never give anything by mouth to an unconscious person.
Do not induce vomiting unless directed to do so by medical personnel.
Seek medical advice.
- Most important symptoms and effects, both acute and delayed : Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Dust contact with the eyes can lead to mechanical irritation.
Prolonged skin contact may defat the skin and produce dermatitis.
- Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Carbon dioxide (CO₂)
Dry chemical
Foam
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

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			NC6 / 0091335818 / 0004342234

Specific hazards during fire fighting : The substance burns with almost invisible flame. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous combustion products
Sulfur oxides

Further information : Minimize dust generation and accumulation. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation. Remove all sources of ignition. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Avoid contact with skin and eyes. Ventilate the area. Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Clear up spills immediately and dispose of waste safely. Avoid release to the environment.

Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal. Use explosion-proof electrical equipment. Non-sparking tools should be used. Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Ground and bond container and receiving equipment. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges. Minimize vertical drop distance in chutes and hoppers to prevent generation of dust clouds and static electrical charge. Totally or partially inert closed equipment to reduce oxygen content to below 7%. Minimize dust generation and accumulation. Drain or remove substance from equipment prior to break-in or maintenance.

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Wear appropriate personal protective equipment.
 Avoid breathing dust.
 Use only in area provided with appropriate exhaust ventilation.
 Wash thoroughly after handling.
 Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Keep in a cool place away from oxidizing agents.
 Keep away from sources of ignition - No smoking.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
alpha.-methylstyrene	98-83-9	TWA	10 ppm	ACGIH
		ST	100 ppm 485 mg/m ³	NIOSH REL
		TWA	50 ppm 240 mg/m ³	NIOSH REL
		C	100 ppm 480 mg/m ³	OSHA Z-1
		STEL	100 ppm 485 mg/m ³	OSHA P0
		TWA	50 ppm 240 mg/m ³	OSHA P0

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
 Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.
 If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection

Crystex(TM) HS OT 20

Customer PO: 11007

Version	Revision Date:	SDS Number:	Date of last issue: 05/12/2022
2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
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Remarks	: Wear suitable gloves. When handling hot material, use heat resistant gloves.
Eye protection	: Wear safety glasses with side shields (or goggles).
Skin and body protection	: Wear suitable protective clothing.
Protective measures	: Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder
Color	: yellow
Odor	: characteristic, very faint
Odor Threshold	: not determined
pH	: Not applicable
Melting point/range	: 194 - 246 °F / 90 - 119 °C
Boiling point/boiling range	: not determined
Flash point	: Not applicable
Evaporation rate	: not determined
Flammability (solid, gas)	: May form combustible dust concentrations in air.
Burning rate	: < 2.22 mm/s
Upper explosion limit / Upper flammability limit	: > 2,000 g/m ³
Lower explosion limit / Lower flammability limit	: 30 g/m ³
Vapor pressure	: < 0.01 hPa (68 °F / 20 °C)
Relative vapor density	: not determined
Relative density	: approx. 1.61 (68 °F / 20 °C)
Density	: approx. 1.61 g/cm ³
Bulk density	: 350 - 550 kg/m ³

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Solubility(ies)
Water solubility : insoluble

Solubility in other solvents : Solvent: organic solvent
Description: partly soluble

Partition coefficient: n-
octanol/water : Not applicable

Autoignition temperature : not determined

Decomposition temperature : not determined

Viscosity
Viscosity, dynamic : Not applicable

Viscosity, kinematic : Not applicable

Explosive properties : Not classified

Oxidizing properties : Not classified

Dust deflagration index (Kst) : 123 m.b_/s

Dust explosion class : St1

Minimum ignition energy : 5 - 10 mJ

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-
tions : None known.

Conditions to avoid : Minimize dust generation and accumulation.

Incompatible materials : Strong oxidizing agents
Amines
Strong bases

Hazardous decomposition
products : Sulfur oxides

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

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Crystex(TM) HS OT 20

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Acute oral toxicity : LD50 Oral (Rat): > 4,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Read-across from a similar material

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:**alpha.-methylstyrene:**

Acute oral toxicity : LD50 Oral (Rat): 4,900 mg/kg

Acute inhalation toxicity : LC50 (Rat): 34.28 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal (Rabbit): 14,560 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:**alpha.-methylstyrene:**

Species : Guinea pig

Exposure time : 24 h

Result : none

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Assessment : Not classified

Components:**alpha.-methylstyrene:**

Species : Rabbit

Result : Irritating to eyes.

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Crystex(TM) HS OT 20

Customer PO: 11007

Version	Revision Date:	SDS Number:	Date of last issue: 05/12/2022
2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0530	NC6 / 0091335818 / 0004342234

Product:

Assessment : Not classified

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity - Assessment : Not classified

Carcinogenicity

Not classified based on available information.

Product:

Remarks : Based on available data, the classification criteria are not met.

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L), Weight of evidence does not support classification as a carcinogen

IARC	Group 2B: Possibly carcinogenic to humans alpha.-methylstyrene	98-83-9
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OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
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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.
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Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: Not classified

STOT-single exposure

Not classified based on available information.

Product:

Remarks : Not classified

Components:**alpha.-methylstyrene:**

Routes of exposure	: Inhalation
Target Organs	: respiratory tract irritation
Assessment	: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0530	NC6 / 0091335818 / 0004342234

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : Not classified

Aspiration toxicity

Not classified based on available information.

Product:

Not applicable

Experience with human exposure**Product:**

Inhalation	:	Remarks: Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Skin contact	:	Remarks: Prolonged skin contact may defat the skin and produce dermatitis.
Eye contact	:	Remarks: Dust contact with the eyes can lead to mechanical irritation.
Ingestion	:	Remarks: Gastrointestinal discomfort

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****alpha.-methylstyrene:**

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 2.97 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (daphnid): 1.645 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Chlorella pyrenoidosa): 11.441 mg/l Exposure time: 72 h NOEC: (Chlorella pyrenoidosa): 2.26 mg/l Exposure time: 72 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: (daphnid): 0.401 mg/l Exposure time: 21 d

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2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
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Persistence and degradability**Components:****alpha.-methylstyrene:**

Biodegradability : Biodegradation: 56 %
Exposure time: 21 d
Method: Ready Biodegradability: Closed Bottle Test

Biodegradation: 56 %
Exposure time: 28 d
Method: Inherent Biodegradability: Modified MITI Test (II)

Bioaccumulative potential**Components:****alpha.-methylstyrene:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 15 - 140
Exposure time: 56 d

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 12 - 113
Exposure time: 56 d

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION**International Regulations****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**49 CFR**

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2.0	08/11/2022	150000093078	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0530	NC6 / 0091335818 / 0004342234

Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION**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 : Combustible dust**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.**California Prop. 65**WARNING: This product can expose you to chemicals including alpha.-methylstyrene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.**The ingredients of this product are reported in the following inventories:**

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

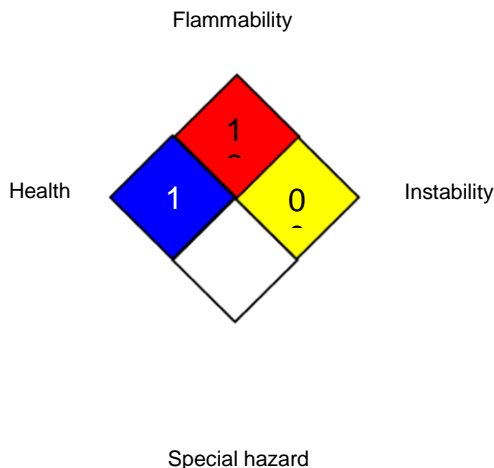
TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Crystex(TM) HS OT 20

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2.0
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NC6 / 0091335818 / 0004342234**SECTION 16. OTHER INFORMATION****Further information****NFPA 704:****HMIS® IV:**

HEALTH	/	1
FLAMMABILITY		1
PHYSICAL HAZARD		0

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)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / C	:	Ceiling

AIIC - Australian Inventory of Industrial Chemicals; 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

Crystex(TM) HS OT 20

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Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals 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; TECl - Thailand Existing Chemicals 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 : OIL-TREATED CRYSTEX™ - SAFETY WARNINGS AND HANDLING GUIDE

Revision Date : 08/11/2022

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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