

SAFETY DATA SHEET**X 50-S®**

Material no.		Version	3.1 / US
Specification	101853	Revision date	07/05/2015
Order Number		Print Date	07/10/2015
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1. Identification**1.1. Product identifier**

Trade name X 50-S®

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified Rubber - producing and processing industry

1.3. Details of the supplier of the safety data sheetCompany Evonik Corporation USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone 973-929-8000

Telefax 973-929-8040

Email address Product-Regulatory-Services@Evonik.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:**CHEMTREC - US & CANADA:** 800-424-9300**CHEMTREC MEXICO:** 01-800-681-9531**CHEMTREC INTERNATIONAL:** +1 703-527-3887 (collect calls accepted)

Product Regulatory Services : 973-929-8060

2. Hazards identification**2.1. Classification of the substance or mixture**Classification according to Regulation 29CFR 1910.1200
Combustible dust**2.2. Label elements**

Statutory basis Classification according to Regulation 29CFR 1910.1200

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Signal word	Warning
Hazard statement	- May form combustible dust concentrations in air
Precautionary statement Prevention	P243 - Take precautionary measures against static discharge. - Use with adequate ventilation. - Avoid generation or accumulation of dust. P261 - Avoid breathing dust.
Precautionary statement Reaction	P302 + P352 - IF ON SKIN: Wash with plenty of water. - In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops. - If inhaled, remove to fresh air. - If symptoms persist, consult a physician for treatment. P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
Precautionary statement Disposal	- Collect in a chemical waste container. Use only vacuum cleaners approved for combustible dust collection.

2.3. Other hazards

None known

3. Composition/information on ingredients

• Carbon Black, amorphous		50%
CAS-No.	1333-86-4	
Remarks	Not a hazardous substance or mixture.	

4. First aid measures**4.1. Description of first aid measures****Inhalation**

In case product dust is released: Possible discomfort: cough, sneezing
Move victims into fresh air.

Skin contact

Wash off with soap and plenty of water.

Eye contact

In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion

If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed**Symptoms**

None known

4.3. Indication of any immediate medical attention and special treatment needed

After absorbing large amounts of substance: Administration of activated charcoal: Acceleration of gastrointestinal passage.

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5. Fire-fighting measures**5.1. Extinguishing media**

Suitable extinguishing media: All extinguishing substances suitable.

5.2. Special hazards arising from the substance or mixture

Formation of flammable or explosive dust/air mixtures possible.

May be released in case of fire: carbon monoxide, carbon dioxide, sulphur oxides.

5.3. Advice for firefighters

As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment.

6.2. Environmental precautions

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Collect in suitable containers.

Additional advice

Defect containers must be isolated and sealed immediately.

Avoid dust formation.

7. Handling and storage**7.1. Precautions for safe handling**

Ensure suitable suction/aeration at the work place and with operational machinery. Always close container tightly after removal of product.

7.2. Conditions for safe storage, including any incompatibilities**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges.

Explosion protection is recommended in case the explosion limits for the following substance might be exceeded: Ethanol.

Danger of explosion from residual product fumes; therefore avoid spark production through cutting, grinding, or welding work in the area of the container.

When repairs of the production system are to be made (e.g. welding work), the section to be repaired must be essentially free of product.

Keep away from humidity.

Storage

Keep in a dry, cool and well-ventilated place.

Assure impermeability at all times.

Dust explosion class

St1

Method: VDI 3673

Maximum rate of pressure rise: 65 bar/s

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1 m3 standard container, ignition energy 10 kJ

8. Exposure controls/personal protection

8.1. Control parameters

• Carbon Black, amorphous		
CAS-No.	1333-86-4	
Control parameters	3.5 mg/m ³	Permissible exposure limit:(OSHA Z1)
Control parameters	3.5 mg/m ³	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)
Control parameters	3 mg/m ³	Time Weighted Average (TWA):(ACGIH)
type of exposure	Inhalable fraction.	

8.2. Exposure controls

Personal protective equipment

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection

Wear protective gloves made of the following materials:.

Glove material	Nitrile rubber
Material thickness	0.35 mm
Glove material	PVC
Material thickness	0.5 mm
Glove material	Polychloroprene (PCP)
Material thickness	0.5 mm

The material thickness and rupture time data do not apply to non-solute solids / dusts.

Suitability for specific workplaces should be clarified with protective glove manufacturers.

The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use.

Eye protection

Wear safety glasses with side shields.

Skin and body protection

A safety shower and eye wash fountain should be readily available.

To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR 1910.132) be conducted before using this product.

Avoid clothing from being contaminated with the product. Wash contaminated clothing after use.

Hygiene measures

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work.

To ensure ideal skin protection: use super fatted soaps and skin cream for skin care.

Wash contaminated clothing before re-use.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

physical state	solid
Colour	black

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Form	pearled
Odour	sulphurous
pH	not applicable
Melting point/range	not applicable
Boiling point/range	not applicable
Flash point	> 94 °C tested substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Flammability (solid, gas)	not determined
Lower explosion limit	dust: 30 g/m ³
Upper explosion limit	not determined
Vapour pressure	ca. 1 hPa (20 °C) tested substance: Ethanol
Density	ca. 1.3 g/cm ³ (20 °C)
Water solubility	insoluble
Partition coefficient: n-octanol/water	not applicable
Autoignition temperature	255 °C Method: VDI 2263
Thermal decomposition	> 250 °C
Viscosity, dynamic	not applicable

9.2. Other information

Bulk density	770 kg/m ³
Minimum ignition energy	3 - 10 mJ Method: VDI 2263
maximum absolute explosive pressure	8.7 bar

10. Stability and reactivity**10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous Reaction with water, acids and alkaline solutions.

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reactions Formation of ethanol.

10.4. Conditions to avoid

When heated, formation of explosive vapour/air mixtures.

10.5. Incompatible materials

water, Acids, alkalines

10.6. Hazardous decomposition products

decomposition products with heating above decomposition temperature
Carbon monoxide, Carbon dioxide (CO₂), hydrogen sulphide, Ethanol

11. Toxicological information**11.1. Information on toxicological effects**

Acute oral toxicity	LD50 Rat: > 17500 mg/kg Method: OECD Test Guideline 401 Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Acute inhalation toxicity	LC50 Rat: > 7.967 mg/l / 4 h / dust/mist Method: OECD Test Guideline 403 Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 Rat: > 2000 mg/kg Method: OECD Test Guideline 402 Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane Assessment: The substance or mixture has no acute dermal toxicity
Skin irritation	Rabbit No skin irritation Method: literature
Eye irritation	Rabbit No eye irritation Method: literature
Sensitization	maximization test guinea pig: Does not cause skin sensitisation. Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Repeated dose toxicity	inhalative Rat Testing period: 90 d NOAEL: 0.0011 mg/l target organ/effect: lungs / inflammation, hyperplasia, fibrosis Method: literature Test substance: Carbon Black inhalative rat, mouse Testing period: 2 years target organ/effect: lungs / inflammation, fibrosis, tumours Method: literature Test substance: Carbon Black exposure under overload conditions (Overload Effect), effect on rats

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specific to species, literature
Long-term tests

Oral Rat
Testing period: 28 d
NOEL: > 2309 mg/kg
Method: OECD 407
Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane

Assessment of STOT single exposure no evidence for hazardous properties

Assessment of STOT repeat exposure no evidence for hazardous properties

Risk of aspiration toxicity No evidence of aspiration toxicity

Gentoxicity in vitro Ames test Salmonella typhimurium negative
Method: OECD method
Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane

Carcinogenicity Oral Rat: 2 years
target organ/effect: no tumours
Method: literature
Test substance: Carbon Black
Feeding experiments

Oral (mouse): 2 years
target organ/effect: no tumours
Method: literature
Test substance: Carbon Black
Feeding experiments

dermal Mouse: 12 - 18 month
target organ/effect: skin / no tumours
Method: literature
Test substance: Carbon Black

Toxicity to reproduction No data available

Human experience Several epidemiological and clinical studies of workers in the carbon black production industries show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black. No increased cancer risk was observed in workers exposed to carbon black.

Further information The scientific discussion about the carcinogenic effect of inorganic low solubility particles (fine dusts) - such as carbon black - has not been concluded. In the view of many inhalation toxicologists tumour development resulted in experiments on rats through a type specific mechanism in overloading of the rat lung (overload phenomena). Compatible findings have not yet occurred in the exposition of human beings The IARC however, evaluated this rat study in the monograph 65 as being a sufficient indicator of the carcinogenic properties of carbon black in tests on animals. According to the IARC there are not sufficient indicators

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of the carcinogenic effect of carbon black on human beings. An overall evaluation of carbon black resulted from the IARC schematic evaluation as: "possibly carcinogenic for human beings" (Group 2B). The PAH (polycyclic aromatic hydro-carbons) content is below 0.1 %.

12. Ecological information**12.1. Toxicity**

No ecotoxicological studies are available on the mixture.

12.2. Persistence and degradability

Biodegradability inoculum: Activated sludge
Result: Not readily biodegradable.
Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Method: 84/449/EEC

12.3. Bioaccumulative potential

Bioaccumulation Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Method: OECD TG 305 C
low

12.4. Mobility in soil

Mobility Test substance: Bis-[3-(triethoxysilyl)-propyl]-tetrasulphane
Adsorption on the floor: low.

12.5. Other adverse effects

Further Information No further information available

13. Disposal considerations**13.1. Waste treatment methods****Product**

Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

Uncleaned packaging

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

Not dangerous according to transport regulations.

14.1. UN number: --

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- 14.2. UN proper shipping name: --
- 14.3. Transport hazard class(es): --
- 14.4. Packing group: --
- 14.5. Environmental hazards (Marine pollutant): --
- 14.6. Special precautions for user: Yes
Not dangerous according to transport regulations.

15. Regulatory information**US Federal Regulations****OSHA**

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Chronic Health Hazard

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations**California Proposition 65**

A warning under the California Drinking Water Act is required only if listed below:

WARNING! This product contains a chemical known to the State of California to cause cancer.

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- Carbon Black, amorphous
CAS-No. 1333-86-4

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

Health :	1*
Flammability :	3
Physical Hazard :	0

NFPA Ratings

Health :	1
Flammability :	3
Reactivity :	0

16. Other information**Further information**

Revision date 07/05/2015

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Legend

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	Advisory Committee on Sustainability
ADI	Acceptable Daily Intake
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BOD	Biochemical oxygen demand
c.c.	closed cup
CAO	Cargo Aircraft Only
Carc	Carcinogen
CAS	Chemical Abstract Services
CDN	Canada
CEPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response – Compensation and Liability Act
CFR	Code of Federal Regulations
CMR	carcinogenic-mutagenic-toxic for reproduction
COD	Chemical oxygen demand
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
DOT	Department of Transportation
EC50	half maximal effective concentration
EPA	Environmental Protection Agency
ErC50	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
HCS	Hazard Communication Standard
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO-TI	International Civil Aviation Organization- Technical Instructions
ICCA	International Council of Chemical Association
ID	Identification number
IMDG	International Maritime Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization For Standardization
LC50	50 % Lethal Concentration
LD50	50 % Lethal Dose
L(EC50)	LC50 or EC50
LOAEL	Low est observed adverse effect level
LOEL	Low est observed effect level
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
RQ	Reportable Quantity
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very persistent, very bioaccumulative

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voc volatile organic compounds
WHMIS Workplace Hazardous Materials Information System
WHO World Health Organization