abrasive technology
www.abrasive-tech.com

8400 Green Meadows Dr.
P.O. Box 545
Lewis Center, OH 43035

P: 740.548.4100
F: 740.548.7616

SAFETY DATA SHEET

REVISION: 08/26/2015

CRYSTALCUT™

1. PRODUCT & COMPANY INFORMATION

1.1 PRODUCT IDENTIFIER(S)

PRODUCT NAME: CRYSTALCUT™ - WATER ADDITIVE
STOCK NUMBER: C5423310, C5423330, C5423350 & C5423370

1.2 COMPANY INFORMATION

ABRASIVE TECHNOLOGY, INC
8400 GREEN MEADOWS DR.
LEWIS CENTER, OHIO 43035

TELEPHONE **740-548-4100 (8:00 am TO 5:00 pm EST)**
FAX **740-548-7617**

1.3 EMERGENCY PHONE NUMBERS

NORTH AMERICA (24 HRS) CHEMTREC 800-424-9300
OUTSIDE NORTH AMERICA (COLLECT) 703-527-3887

2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

H272: MAY INTENSIFY FIRE; OXIDIZER

H319: CAUSES SERIOUS EYE IRRITATION

WARNING

2.2 GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

LABEL ELEMENTS

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

HAZARD PICTOGRAMS

GHS02 **GHS08** **GHS07** **GHS06** **GHS09**

SIGNAL WORD: Danger

HAZARD-DETERMINING COMPONENTS OF LABELING:
SODIUM TETRABORATE DECAHYDRATE & SODIUM NITRATE

HAZARD STATEMENTS

H272	May intensify fire; oxidizer
H301	Toxic if swallowed
H319	Causes serious eye irritation
H350	May cause cancer
H360	May damage fertility or the unborn child
H400	Very toxic to aquatic life

PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat
P220	Keep/Store away from clothing/combustible materials
P221	Take precautions to avoid mixing with combustibles
P264	Wash skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves / eye protection / face protection
P281	Use protective equipment as required
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CONTROL CENTER or or doctor/physician. Rinse mouth
P305 +P351 +P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

PRECAUTIONARY STATEMENTS (continued)

P308 + P313	If exposed or concerned: get medical attention
P337 + P313	If eye irritation persists: get medical attention.
P370 + P378	In case of Fire: Use dry sand, dry chemical or alcohol-resistant foam for extinguishing
P391	Collect spillage
P405	Store locked up
P501	Dispose of contents / container at an approved waste disposal facility

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Hazardous Components – Listed below

Sodium tetraborate decahydrate	CAS#1303-96-4 EC# 215-540-4	67% by WT
Sodium nitrite	CAS# 7632-00-0 EC# 231-555-9	33% by WT

Hazardous components

Disodium tetraborate decahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)
Repr. 1B; H360 <= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

Composition is proprietary

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4. FIRST AID MEASURES (CONTINUED)

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.2 Special hazards arising from the substance or mixture
Nitrogen oxides (NOx), Sodium oxides
Borane/boron oxides, Sodium oxides
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting.
5.4 Further information
Use water spray to cool unopened containers.
5.4 Further information
The product itself does not burn. Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing
and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.
Hygroscopic Storage class (TRGS 510): Oxidizing hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Disodium tetraborate decahydrate	1303-96-4	TWA	2.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Not classifiable as a human carcinogen		Varies
		STEL	6.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)Upper
		Respiratory Tract irritation Not classifiable as a human carcinogen		Varies
		TWA TWA	5.000000 mg/m3 2.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen		Varies
		STEL	6.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen		Varies
		TWA	2.000000 mg/m3	USA. ACGIH Threshold Limit Values TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen		Varies
		STEL	6.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen		Varies

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It
should not be construed as offering an approval for any specific use scenario.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and
approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	solid
b) Odor	no data available
c) Odor Threshold	no data available
d) pH	9.0 to 9.2 @ 10 gm/L
e) Melting point/freezing point	no data available (mixture)
f) Initial boiling point and Boiling	no data available (mixture)
g) Flash point	no data available (mixture)
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Lower / Upper explosive limits	no data available
k) Vapor pressure	no data available (mixture)
l) Vapor density	no data available
m) Relative density	Not determined
n) Water solubility	38.1 to 820 gm/L @ 25°C / 77°F
o) Partition coefficient: N-octanol/water	no data available (mixture)
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	Oxidizing(Category 3)

9.2 Other safety information no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Exposure to moisture (sodium nitrite)

10.5 Incompatible materials

Strong oxidizers, strong reducers, acids, powdered metals, ammonia, cyanides, amines, activated carbons, combustible materials

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity:

LD50 Oral – Rat - >160 mg/kg

Inhalation

No data available

Dermal

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes – rabbit

Result: Eye irritation – 24 hr

(OECD Test Guideline 405)

Respiratory or Skin Sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: 2A – Group 2A: Probably carcinogenic to humans (Sodium nitrite)
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC (Sodium tetraborate decahydrate)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA

11. TOXICOLOGICAL INFORMATION (continued)

Reproductive toxicity
Fetotoxicity - Presumed human reproductive toxicant

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: VZ2275000
Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

Additional Information
RTECS: RA1225000
Headache, Nausea, Incoordination., Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Liver - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.94 - 1.92 mg/l - 96.0 h mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 0.54 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 12.5 mg/l - 48 h
Toxicity to algae	NOEC - Desmodesmus subspicatus (green algae) - 100 mg/l - 72 h (OECD Test Guideline 201)

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

	DOT (US)	IMDG	IATA
UN/NA#	1500	1500	1500
PACK GRP	III	III	III
SHIP NAME	Sodium Nitrite	Sodium Nitrite	Sodium Nitrite
PLACARD #	5.1 (6.1)	5.1 (6.1)	5.1 (6.1)
ENV. HAZARD	MARINE POLLUTANT	MARINE POLLUTANT	MARINE POLLUTANT

LAND (as per ADR classification: REGULATED

Sodium tetraborate decahydrate

DOT (US)	IMDG	IATA
Not dangerous goods	Not dangerous goods	Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards: Chronic Health Hazard

SARA 313 Components:
The following components are subject to reporting levels established by SARA Title III, Section 313:
Sodium nitrite CAS-No. 7632-00-0 Revision Date 2007-07-01

Massachusetts Right To Know Components
Disodium tetraborate decahydrate CAS-No. 1303-96-4 Revision Date 2007-03-01
Sodium nitrite CAS-No. 7632-00-0 Revision Date 2007-07-01

Pennsylvania Right To Know Components
Disodium tetraborate decahydrate CAS-No. 1303-96-4 Revision Date 2007-03-01
Sodium nitrite CAS-No. 7632-00-0 Revision Date 2007-07-01

New Jersey Right To Know Components
Disodium tetraborate decahydrate CAS-No. 1303-96-4 Revision Date 2007-03-01
Sodium nitrite CAS-No. 7632-00-0 Revision Date 2007-07-01

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H350	May cause cancer.
H400	Very toxic to aquatic life.
Ox. Sol.	Oxidizing solids

HMIS Rating	**NFPA Rating**
Health hazard: 2	Health hazard: 2
Chronic Health Hazard: *	Fire Hazard: 0
Flammability: 0	Reactivity Hazard: 1
Physical Hazard 1	Special hazard.I: OX

Further information

User is granted the ability to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Abrasive Technology, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

SDS PREPARATION INFORMATION

ABRASIVE TECHNOLOGY, INC.
DOUGLAS G. ANDERSON
DATE PREPARED: 07/01/2015
DATE REVISED:08/26/2015 **PURPOSE OF REVISION:**INFORMATION UPDATE