

IN THE DISTRICT COURT OF BUFFALO COUNTY, NEBRASKA

STATE OF NEBRASKA, ex rel.,
MICHAEL J. LINDER, Director
DEPARTMENT OF ENVIRONMENTAL
QUALITY,

Plaintiff,

v.

CHS INC, doing business as
AGRI CO-OP ELM CREEK,

Defendant.

Case No. CI1131

COMPLAINT

FILED
SHARON K. MAULER
2011 JUN 11 AM 10 35
CLERK OF DISTRICT COURT
BUFFALO COUNTY, NEBRASKA

COMES NOW Michael J. Linder, Director of the Department of Environmental Quality, who institutes this action through Jon C. Bruning, Attorney General, on behalf of the State of Nebraska, and alleges and follows:

1. The Plaintiff, Nebraska Department of Environmental Quality, hereinafter NDEQ, is at all times material herein the agency of the State of Nebraska charged with the duty pursuant to Neb. Rev. Stat. §81-1504 (1) (Reissue 2008) to exercise exclusive general supervision of the administration and enforcement of the Environmental Protection Act, Neb. Rev. Stat. §81-1501 (Reissue 2008) et seq., and all rules and regulations promulgated pursuant thereto. The Defendant is CHS Inc., doing business as AGRI CO-OP, a Nebraska authorized corporation.

2. The Defendant owns and operates a grain storage facility on premises in Elm Creek, Buffalo County, Nebraska.

3. A rule promulgated by the Environmental Quality Council in effect at all time herein and which applies to the respondent is Title 129, Nebraska Air Quality Regulations, Chapter 32, which provides in part as follows:



000130965D09

“001 Handling, Transportation, Storing. No person may cause or permit the handling, transportation or storage of any material in a manner which may allow particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates.

002 Construction, Use, Repair, Demolition. No person may cause or permit the building or its appurtenances or a road, or a driveway, or an open area to constructed, used, repaired or demolished without applying all such reasonable measures to prevent particulate matter from becoming airborne so that it remains visible beyond the premises where it originates. The Director may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne, including but not limited to paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover. ...”

4. On March 6, 2009, the Defendant caused and permitted the handling and storage of material so that particulate matter originating on its premises remained visible in the air beyond the premises of the Defendant in violation of Chapter 32.

5. Pursuant to Neb. Rev. Stat. §81-1508.02 (Reissue 2008) a civil penalty is provided for imposition by the court in instances in violation of any rule promulgated pursuant to the Environmental Protection Act in an amount not to exceed ten thousand dollars (\$10,000) per day.

WHEREFORE, the Plaintiff prays that the Court enter judgment herein against the Defendant in the form of a civil penalty as provided under Neb. Rev. Stat. §81-1508.02 (Reissue 2008); the Plaintiff further prays that all costs herein be taxed to the Defendant.

STATE OF NEBRASKA, ex rel.,
MICHAEL J. LINDER, Director
NEBRASKA DEPARTMENT OF
ENVIRONMENTAL QUALITY, Plaintiff

By JON C. BRUNING, #20351
Attorney General

By 
Katherine J. Spohn, #22979
Special Counsel to the Attorney General
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Lincoln, Nebraska 68509-8920
(402) 471-2682
Katie.sphon@nebraska.gov
Attorneys for Plaintiff.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Complaint has been served upon Defendant by regular United States mail, first class postage prepaid on this 6th day of January, 2011, addressed to the Defendant's attorney of record as follows:


Katherine J. Spohn
Assistant Attorney General



5500 Cenex Drive
Inver Grove Heights, MN
55077

651-355-6000
chsinc.com

December 1, 2010

Ms. Shelley Schneider
Nebraska Department of Environmental Quality
Air Quality Division
1200 "N" Street, Suite 400
PO Box 98922
Lincoln, Nebraska 68509

RE: Submittal of Plan to Address Fugitive Emissions at Elm Creek, NE Grain Elevator
Violation IIS#58475

Dear Ms. Schneider:

As a result of receiving a Letter of Warning dated November 9, 2007, and Notices of Violation dated December 14, 2007, April 16, 2009, and November 16, 2010, for fugitive dust emissions from the Nebraska Department of Environmental Quality, enclosed with this letter is a Plan to Address Fugitive Emissions at the CHS-Elm Creek facility in Elm Creek, Nebraska.

Please call me at 651-355-6935 if you have any questions regarding the enclosed documentation.

Sincerely,

Pete Mutschler
Environmental & Safety Manager

Enclosure

Cc: Katie Spohn, Nebraska Attorney General's Office
Don Lien, CHS-Holdrege
Zachary Fries, CHS-Elm Creek

Exhibit No. 6208

EXHIBIT

1

**Plan to Address Fugitive Emissions at the
CHS Agri-Service – Elm Creek Grain, NE
515 W. Front Street
Elm Creek, NE 68836**

December 1, 2010

Plan to Address Fugitive Emissions at the CHS Agri-Service – Elm Creek Grain, NE

It has been brought to our attention that there have been complaints about dust emissions from our facility located at 515 W. Front Street in Elm Creek, Nebraska. The following plan is being submitted in an effort to address the dust emission issues from this facility.

Actions To Be Completed:

Currently, we are working on several areas of dust control in grain, including:

1. Increase and Improve Grain Oiling Systems

We currently oil the grain on the leg that goes to the big bin. For dusty crops we will begin oiling the grain as it comes out of the bin also. This was an area where significant dust was noted by NDEQ staff. We will use a 1 gallon per 1,000 bushel rate. We will set the oiling system up over the summer of 2011 and will start the oiling process during the 2011 harvest season which will start in September.

2. Gravel Parking Lot

This past harvest season we were applying calcium chloride to the roads at a low application rate. In the late Spring/early Summer when the traffic increases and the roads are dry we will begin application of the calcium/chloride solution at a higher rate to control the road dust. Application rates will be 1.50# calcium chloride per square yard. We will apply a base application in late Spring/early summer and will repeat during harvest season if necessary. Additionally, water will be added if necessary to activate the calcium chloride. See Attachment A for a guidance sheet on calcium chloride use, the product label, and the Material Safety Data Sheets. If these methods are not sufficient, we will add concrete to the driving areas.

3. Tree "Buffer" Plan

CHS intends to plant trees on the perimeter of the grain piling site to act as a visual screen and a filter for fugitive particulate emissions. The proposed shelterbelt would consist of three rows of trees, 15' apart, around the north and east sides of the grain piling area. The first row will be a continuation of some existing junipers (western red cedar) at the facility. Currently there are junipers on the west side of the property and in some places along the north perimeter of the property. Junipers will be planted along the north border to complete that row and also be

planted along the east property boundary. These will be container grown, 2-3' trees, to match those already in place.

The second row will be a fast growing, hybrid willow planted 8' apart. Under irrigation, these trees can grow 6 to 10' per year and will provide an effective screen in 2 to 3 years. Approximately 150 willows will be planted around the pile site.

The third row will consist of hybrid poplars also planted 8' apart. The poplars are also a fast growing tree which will effectively screen dust emissions within the first 2 to 3 years and should be 15 to 25' tall by the end of the third year.

All trees will be watered by a drip irrigation system with emitters for each tree. The watering system will be on a timer to ensure proper watering amounts and intervals.

Attachment B provides information about these trees.

Additional Options:

If the above measures are not effective in controlling the fugitive emissions, we will explore the option of purchasing and adding a dust suppression hopper system. We have installed this device at another location where it has proven to be effective in controlling emissions during loading operations. We will look at setting it up to be a portable device where it could be used at various locations. We have not determined if this is feasible, but we would like to be able to use it on the truck loadout spout when loading trucks but then be able to move it to the conveyor that loads the circle bunker when we are loading that. Additionally, we would like to be able to transfer it for use at the rail loadout. Attachment C provides information about this system.

We also are aware of dust emissions from the overflow spout off of the distributor can be a concern from time to time. We currently do not have any measures in-place to control these dust emissions. We are planning to hire an expert on dust control to help us identify a way to effectively capture this dust. We will look at the cost and feasibility of the options identified to control this dust emission source.

ATTACHMENT A
CALCIUM CHLORIDE INFORMATION

Calcium Chloride in Dust Control Applications

Guidelines for Using Calcium Chloride in Dust Control

- Blade in the spring while road moisture content and humidity are relatively high. Water road surface prior to blading unless rain has fallen within the last two days. Remove ruts, washboards, potholes and mix in loose aggregate.

- Good drainage is essential to good performance. Shape roads to a 4% or greater crown. Ditches, shoulders and culverts should be reshaped and cleaned as needed.

- Recommended application rates are provided in Tables 1 and 2. When applying solid products, it is usually preferable to water the surface prior to spreading the product. If the road is kept open to traffic while solid product remains on the surface, signs should be posted directing motorists to take appropriate precautions.

- Applications should not be started during heavy rainfall or if rain is threatening.

- For best performance, aggregate should meet the criteria shown in Table 3.

- During unusually long periods of hot, dry weather, water the road surface during early morning hours as needed to reconstitute the treatment. Re-apply in late summer or early fall as needed.

Frequently Asked Questions

Will an unpaved road treated with calcium chloride corrode my vehicle?

Noticeable vehicle corrosion is not likely to result from driving on an unpaved surface treated with calcium chloride. The calcium chloride tends to stay bound to the soil in the road, so there is little chance for significant contact with exposed metal on a vehicle.

Are dust control treatments with calcium chloride safe for the environment?

Calcium chloride dust control applications reduce sediment load on waterways and save thousands of tons of aggregate that otherwise would be mined from noisy and unsightly gravel quarries. Airborne particulate matter is reduced, improving regional air quality. Ground and surface waters are not likely to be impacted. While over-exposure to chloride has the potential to injure trees, this rarely occurs in dust control applications that follow current standard practices.

Additional Information

To ensure the safe and effective use of OxyChem calcium chloride, please thoroughly review the product's Material Safety Data Sheet prior to use. To obtain an MSDS, please visit our web site www.oxycaiumchloride.com.

Table 1. Dust Control Application Rates (US Units)

Product	Unpaved Roads	Truck Terminals & Parking Lots	Mine Haul & Logging Roads
LIQUIDOW™ 35%	0.30 gal/yd ² 2117 gal/lane-mi	0.33 gal/yd ² 2352 gal/lane-mi	0.39 gal/yd ² 2744 gal/lane-mi
LIQUIDOW™ 38%	0.27 gal/yd ² 1901 gal/lane-mi	0.30 gal/yd ² 2112 gal/lane-mi	0.35 gal/yd ² 2464 gal/lane-mi
LIQUIDOW™ 42%	0.24 gal/yd ² 1664 gal/lane-mi	0.26 gal/yd ² 1849 gal/lane-mi	0.31 gal/yd ² 2157 gal/lane-mi
DOWFLAKE™ Xtra 83-87%	1.38 lb/yd ² 4.84 ton/lane-mi	1.56 lb/yd ² 5.49 ton/lane-mi	1.83 lb/yd ² 6.45 ton/lane-mi
ANHYDROUS 94-97%	1.23 lb/yd ² 4.33 ton/lane-mi	1.39 lb/yd ² 4.90 ton/lane-mi	1.64 lb/yd ² 5.77 ton/lane-mi

¹lane-mi equals 4 yards wide by 1760 yards long

Table 3. Recommended Aggregate Characteristics

Characteristic	Preferred	Acceptable
Maximum Size	¾ inch	1 inch
Grading Description	Well graded – not uniform or skip graded	
Percent Pass #4	55 to 70	50 to 75
Percent Pass #200 (Nonplastic)	14 to 17	12 to 17
Percent Pass #200 (Plastic)	12 to 15	8 to 15
Plasticity Index	2 to 9	Nonplastic
Los Angeles Abrasion	Less than 30	Less than 40
Percent Fracture, one face	Greater than 85%	Greater than 75%

¹ "The Incorporation of Dust Palliatives as a Maintenance Option in Unsealed Road Management Systems." D. Jones, E. Sadzik, and I. Wolmarans; Paper from 20th ARRB Conference, 19-21 March 2001

Originally Published August 2006
Form 173-01741-0809



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SAFETY DATA SHEET

OxyChem[®]



CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 2009-07-14

Rev. Num. 00

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification: Occidental Chemical Corporation
5005 LBJ Freeway
P.O. Box 809050
Dallas, Tx
75380-9050

24 Hour Emergency Telephone Number: 1-800-733-3665 or 1-972-404-3228 (U.S.); 32.3.575.55.55 (Europe); 1800-033-111 (Australia)

To Request an MSDS: MSDS@oxy.com or 1-972-404-3245

Customer Service: 1-800-752-5151 or 1-972-404-3700

Product Use: Concrete Acceleration, Drilling Fluid Additive, Dust Control, Ice Melting, Refrigeration, Road Base Stabilization and Full Depth Reclamation, Tire Weighting, Water Treatment (Non-potable)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Color: White
Physical State: Flakes
Odor: Odorless
Signal Word: WARNING

MAJOR HEALTH HAZARDS: CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED.

POTENTIAL HEALTH EFFECTS:

Inhalation: Dust may cause irritation to upper respiratory tract (nose and throat).

Skin contact: Brief contact is essentially nonirritating to skin. Prolonged contact may cause skin irritation, even a burn. Not classified as corrosive to the skin according to DOT guidelines. May cause more severe response if skin is damp. May cause more severe response if skin is abraded (scratched or cut). May cause more severe response on covered skin (under clothing, gloves).

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

Eye contact: For solid: May cause slight eye irritation, mechanical injury only. Dust formation should be avoided, as dust can cause severe eye irritation with corneal injury.

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Swallowing may result in gastrointestinal irritation or ulceration.

See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percentage	CAS Number
Calcium chloride	> 83 - < 87	10043-52-4
Potassium Chloride	> 2 - < 3	7447-40-7
Water	> 8 - < 14	7732-18-5
Sodium chloride	> 1 - < 2	7647-14-5
Calcium bromide (CaBr ₂)	< 1	7789-41-5

4. FIRST AID MEASURES

INHALATION: Move person to fresh air; if effects occur, consult a physician.

SKIN CONTACT: Wash off immediately with plenty of water.

EYE CONTACT: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If effects occur, consult a physician, preferably an ophthalmologist. May cause injury due to mechanical action.

INGESTION: If swallowed, do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Never give anything by mouth to an unconscious or convulsive person.

Protection of First-Aiders: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to Physician: Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Fire Hazard: This material does not burn.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

Fire Fighting: Keep unnecessary people away, isolate hazard area and deny entry. This material does not burn. Fight fire for other material that is burning. Water should be applied in large quantities as fine spray. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Wear protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Lower Flammability Level (air): Not applicable
Upper Flammability Level (air): Not applicable
Flash point: Not applicable
Autoignition Temperature: Not applicable

6. ACCIDENTAL RELEASE MEASURES

Occupational Release:

Small and large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. Flush residue with plenty of water. See Section 13, Disposal Considerations, for additional information.

Personal Precautions:

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

Environmental Precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. HANDLING AND STORAGE

Storage Conditions: Store in a dry place. Protect from atmospheric moisture.

Handling Procedures: Heat developed during diluting or dissolving is very high. Use cool water when diluting or dissolving (temperature less than 80°F, 27°C). Avoid contact with eyes, skin, and clothing. Do not swallow. Wash thoroughly after handling. Keep container tightly closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure limit(s):

Component	CAS Number	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Particulates not otherwise regulated	Not Assigned	TWA 15 mg/m ³ (total) TWA 5 mg/m ³ (resp)	-----	-----

OEL: Occupational Exposure Level; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Level; TWA: Time Weighted Average; STEL: Short Term Exposure Level

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

Non-Regulatory Exposure Limit(s):

- The Non-Regulatory United States Occupational Safety and Health Association (OSHA) limits shown in the table are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).
- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Component	CAS Number	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Particles Not Otherwise Specified (PNOS)	Not Assigned	TWA 10 mg/m ³ (inhalable) TWA 3 mg/m ³ (resp)	----	----	----	----	----

Additional Advice: Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

ENGINEERING CONTROLS: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. For dusty operations or when handling solutions of the material, wear chemical goggles.

Skin and Body Protection: Wear clean, body-covering clothing.

Hand Protection: Use gloves chemically resistant to this material. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Examples of preferred glove barrier materials include: Neoprene, Polyvinyl chloride ("PVC" or "vinyl"), Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: High efficiency particulate air (HEPA) N95. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:

Flakes

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	White
Odor:	Odorless
Freezing Point/Range:	Not applicable to solids
Melting Point/Range:	260 °C (500 °F) Literature Approximately
Decomposition temperature:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density (air=1):	Not applicable
Specific Gravity (water=1):	Not applicable
Water Solubility:	Readily soluble
pH:	Not applicable
Flash point:	Not applicable
Lower Flammability Level (air):	NA
Upper Flammability Level (air):	NA
Autoignition Temperature:	Not applicable.
Hygroscopic:	Yes

10. STABILITY AND REACTIVITY

Reactivity/ Stability: Stable. Hygroscopic.

Conditions to Avoid: None known. Avoid moisture.

Incompatibilities/ Materials to Avoid:

Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with: Sulfuric acid. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as: Zinc. Sodium. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromate.

Hazardous Decomposition Products: Does not decompose

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

LD50 Oral	Typical for this family of materials. LD50, Rat 918 - 1,668 mg/kg
LD50 Dermal	For the major component(s): LD50, Rabbit > 5,000 mg/kg

CHRONIC TOXICITY:

For the minor component(s): Potassium chloride - In animals, effects have been reported on the following organs after ingestion: Gastrointestinal tract, Heart, and Kidney. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Medical experience with sodium chloride has shown a strong association between elevated blood pressure and prolonged dietary overuse. Related effects could occur in the kidneys.

CARCINOGENICITY: This product is not classified as a carcinogen by NTP, IARC or OSHA.

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

MUTAGENIC DATA: The data presented are for the following material: Calcium chloride (CaCl₂) - In vitro genetic toxicity studies were negative. The data presented are for the following material: Potassium chloride - In vitro genetic toxicity studies were positive. However, the relevance of this to humans is unknown. For the minor component(s): Sodium chloride - In vitro genetic toxicity studies were predominantly negative.

DEVELOPMENTAL TOXICITY: For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

- **Aquatic Toxicity:**
Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested)
- **Freshwater Fish Toxicity:**
Calcium Chloride: LC50, bluegill (*Lepomis macrochirus*): 8,350 - 10,650 mg/l
Potassium Chloride: LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h: 4,236 mg/l
Sodium Chloride: LC50, fathead minnow (*Pimephales promelas*): 10,610 mg/l
- **Invertebrate Toxicity:**
Calcium Chloride: LC50, water flea *Daphnia magna*: 759 - 3,005 mg/l
Potassium Chloride: EC50, water flea *Daphnia magna*, 24 h, immobilization: 590 mg/l
LC50, water flea *Ceriodaphnia dubia*, 96 h: 3,470 mg/l
Sodium Chloride: LC50, water flea *Daphnia magna*: 4,571 mg/l
- **Microorganism Toxicity:**
Sodium Chloride: IC50, OECD 209 Test; activated sludge, respiration inhibition: > 1,000 mg/l

FATE AND TRANSPORT:

BIODEGRADATION: Biodegradation is not applicable.

BIOCONCENTRATION: No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50). Partitioning from water to n-octanol is not applicable.

13. DISPOSAL CONSIDERATIONS

Reuse or recycle if possible. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Report spills if applicable. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Landfill and waste water treatment system.

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

14. TRANSPORT INFORMATION

U.S.DOT 49 CFR 172.101: Not regulated.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: Not regulated.

15. REGULATORY INFORMATION

U.S. REGULATIONS

- **OSHA REGULATORY STATUS:**
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) (US)
- **CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):**
Not regulated.
- **EPCRA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):**
Not regulated
- **EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.21):**
Acute Health Hazard
- **EPCRA SECTION 313 (40 CFR 372.65):**
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
- **OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):**
Not regulated

NATIONAL INVENTORY STATUS

- **U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):** All components are listed or exempt
- **TSCA 12(b):** This product is not subject to export notification
- **Canadian Chemical Inventory:** All components are listed

STATE REGULATIONS

California Proposition 65: This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute. **WARNING:** This product (when used in aqueous formulations with a chemical oxidizer such as ozone) may react to form calcium bromate, a chemical known to the State of California to cause cancer.

Component	Calcium chloride
California Proposition 65 Cancer WARNING:	Not Listed
California Proposition 65 CRT List - Male reproductive toxin:	Not Listed
California Proposition 65 CRT List - Female reproductive toxin:	Not Listed
Massachusetts Right to Know Hazardous Substance List	Not Listed
New Jersey Right to Know Hazardous Substance List	Not Listed

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

New Jersey Special Health Hazards Substance List	Not Listed
New Jersey - Environmental Hazardous Substance List	Not Listed
Pennsylvania Right to Know Hazardous Substance List	Not Listed
Pennsylvania Right to Know Special Hazardous Substances	Not Listed
Pennsylvania Right to Know Environmental Hazard List	Not Listed
Rhode Island Right to Know Hazardous Substance List	Not Listed
Component	Potassium Chloride
California Proposition 65 Cancer WARNING:	Not Listed
California Proposition 65 CRT List - Male reproductive toxin:	Not Listed
California Proposition 65 CRT List - Female reproductive toxin:	Not Listed
Massachusetts Right to Know Hazardous Substance List	Not Listed
New Jersey Right to Know Hazardous Substance List	Not Listed
New Jersey Special Health Hazards Substance List	Not Listed
New Jersey - Environmental Hazardous Substance List	Not Listed
Pennsylvania Right to Know Hazardous Substance List	Not Listed
Pennsylvania Right to Know Special Hazardous Substances	Not Listed
Pennsylvania Right to Know Environmental Hazard List	Not Listed
Rhode Island Right to Know Hazardous Substance List	Not Listed
Component	Sodium chloride
California Proposition 65 Cancer WARNING:	Not Listed
California Proposition 65 CRT List - Male reproductive toxin:	Not Listed
California Proposition 65 CRT List - Female reproductive toxin:	Not Listed
Massachusetts Right to Know Hazardous Substance List	Not Listed
New Jersey Right to Know Hazardous Substance List	Not Listed
New Jersey Special Health Hazards Substance List	Not Listed
New Jersey - Environmental Hazardous Substance List	Not Listed
Pennsylvania Right to Know Hazardous Substance List	Not Listed
Pennsylvania Right to Know Special Hazardous Substances	Not Listed
Pennsylvania Right to Know Environmental Hazard List	Not Listed
Rhode Island Right to Know Hazardous Substance List	Not Listed

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:	D2B
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16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Health Risk Management

CALCIUM CHLORIDE 83 - 87% FLAKE

MSDS No.: M48014

Rev. Date: 200-07-14

Rev. Num. 00

Disclaimer:

A calcium chloride product – Snow and Ice melting. Dust control for industrial use. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated uses in Section 1 of this SDS, please contact your sales or technical service representative.

This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems.

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health:	2	Flammability:	0	Reactivity:	0
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NFPA 704 - Hazard Identification Ratings (SCALE 0-4)

Health:	1	Flammability:	0	Reactivity:	0
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IMPORTANT:

The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and OxyChem assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws.

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

ATTACHMENT B
JUNIPER (WESTERN RED CEDAR)
HYBRID WILLOW
HYBRID POPLAR

Juniper (Western Red Cedar)

Any of about 60 – 70 species of aromatic evergreen trees or shrubs that make up the genus *Juniperus* of the cypress family, found throughout the Northern Hemisphere. Juvenile leaves are needlelike; mature leaves are awl-shaped, spreading, and arranged in pairs or in whorls of three. Common juniper (*J. communis*) is a sprawling shrub whose fragrant, spicy-smelling berries are used to flavour foods and alcoholic beverages, particularly gin. The fragrant wood of eastern red cedar (*J. virginiana*) is made into cabinets, fence posts, and pencils. *J. horizontalis* is a popular U.S. ornamental creeping juniper, and wood of the Mediterranean Phoenician juniper (*J. phoenicea*) is burned as incense.



Native trees growing to 50 (-75) meters tall, often buttressed at base, with a conical to irregular crown, old individuals frequently with many leaders and many dead spike tops; branches arching, branchlets pendent, flattened, in fan-shaped sprays; bark gray to reddish-brown, 10-25 mm thick, fibrous, separated into flat, connected ridges. Leaves are evergreen, scale-like and sharply pointed, (1-) 3-6 mm long, opposite in alternating pairs (in 4 rows), glossy green above, white-striped on the lower surface, with a spicy fragrance when crushed. Seed cones are ellipsoid, 10-14 mm long, brown; seeds 8-14 per cone, 4-7.5 mm long, with lateral wings about as wide as the body.

The Hybrid Willow

The Willow Hybrid tree, Salix Willow Hybrid, also called a Hybrid Willow, will, on average, and under normal conditions, grow six feet per year. Under ideal conditions and on good sites the growth rate is even faster, up to twenty feet a year. Planted as a hedge, screen, windbreak, or to line a road or drive, you can expect this tree to be over 20' tall and 15' wide in just three years.



This deciduous tree can grow to over 70' tall. This tree will require supplemental water until established. It is not a Weeping Willow, but an upright growing majestic tree. Many homeowners use this tree as a shade tree because of its fast growth and quick shade.

The Willow Hybrid grows up to 6+ ft. a year – filling out to create a solid green wall. Excellent privacy screen. Willow Hybrid trees are very effective at blocking out what you don't want to see. They make effective wind barriers as well. They make a quick, inexpensive fence. You often see new home developers using them to block road views.

Disease resistant too. Tolerates both hot and cold climates and grows well from Florida to

Canada. They thrive in almost any soil.

The Willow Hybrid prefers Growing Zones 4-9. Plant them 5 feet apart and stand back.

Willow Hybrids are not evergreens, but they continue to provide great wind blockage and privacy, even during the dead of winter.

The Hybrid Poplar



Hybrid poplars (*Populus spp.*) are among the fastest-growing trees in North America and are well suited for the production of bioenergy (e.g., heat, power, transportation fuels), fiber (e.g., paper, pulp, particle board, etc.) and other biobased products (e.g., organic chemicals, adhesives). With the exception of the more arid regions, hybrid poplars can be produced throughout most of the continental U.S.

Members of the willow family, hybrid poplars are closely related to cottonwoods and aspens; the hybrids themselves represent crosses among various cottonwood species. Early French explorers in North America brought home eastern cottonwood (*Populus deltoides*), which crossed naturally with poplars in Europe (*P. nigra*). Poplars were used as windbreaks around fields, and fast-growing varieties were selected by farmers. Hand-pollinated poplar hybrids were first produced in Britain in 1912, and many European countries established plantations after the Second World War, in response to shortages of timber. Some of the European varieties were reintroduced to North America during the early 20th century. Commercial planting of hybrid poplar did not commence until the 1970s although commercial plantings of cottonwoods can be traced to the 1960s.

Work initiated in the early 1970s by the U.S. Department of Agriculture Forest Service in Wisconsin became a cornerstone of the hybrid poplar research coordinated by the U.S. Department of Energy's Bioenergy Feedstock Development Program (BFDP) beginning in 1979. Since then, the task of improving hybrid poplar has been conducted by a national consortium that involves government researchers from several agencies, universities, and the private sector. Research has focused on reducing costs by improving yields, increasing pest and disease resistance, and developing efficient management systems. The program also seeks to document production costs and determine environmental impacts associated with hybrid poplar production. Favorable market conditions together with improved clones and knowledge has resulted in successful planting of approximately 90,000 acres (36,400 hectares) of hybrid poplar and cottonwoods in the U.S. for fiber use. Commercial plantings have been established in the Pacific Northwest, the Midwest, the Lake States, and the southeastern U.S.

The tree can be effectively used by tree farmers and large property owners under certain conditions. Most hybrid poplars are a landscape nightmare when grown in yards and parks. The *Populus* species are susceptible to fungal leaf spots that defoliate trees by late summer. The poplar tree is extremely susceptible to a devastating canker and dies an ugly death in just a few years. Still poplar just may be the most planted ornamental tree in America.

- * Hybrids grow six to ten times faster than similar species. Tree farmers can see economic returns in 10 to 12 years.
- * Hybrid poplar research has reduced the disease problems. There are now commercially available disease resistant trees.
- * Hybrids are easy to plant. You can plant an unrooted dormant cutting or "stick".
- * Growth off stump sprouts insures future trees with little or no planting costs.
- * There is an ever increasing list of primary uses being developed for hybrid poplar.

Hybrid poplar is extremely beneficial in ways not directly profitable. Property owners can stabilize stream banks and agricultural lands by planting and encouraging hybrid poplar growth. Windbreaks of poplar have protected fields in Europe for centuries. In addition to protecting soil from wind erosion the windbreaks protect livestock and humans from cold winds and increase wildlife habitat and aesthetics.

In addition to the above values of hybrid poplar, it makes an excellent "phytoremediator". Willows and specifically hybrid poplar have the ability to take up harmful waste products and lock them away in their woody stems. Municipal and corporate institutions are becoming more and more encouraged by new research showing the benefits of planting hybrid poplar to naturally clean up toxic waste.

ATTACHMENT C
DUST SUPPRESSION HOPPER



- [Sioux Steel Company](#)
- [Commercial Bins](#)
- [Farm Bins](#)
- [Livestock Solutions](#)
- [Pro-Tec Buildings](#)

Category: [Commercial Bins](#) » [Dust Suppression Hopper](#)
[Click Here to take a brief survey](#)

Dust Suppression Hopper

[Return to Dust Suppression Hopper](#)

How Does The Dust Suppression Hopper Work?

The Dust Suppression Hopper is installed under a feed point where it can be suspended above the target and kept at operating level. A small degree of natural agitation as the hopper is filled helps exclude air from the material being transferred. At the point of loading, or transferral, the Dust Suppression Hopper concentrates the discharge of dry goods as a solid column through free air into any target repository including trucks, rail cars, storage containers, bags or stockpiles. Previously, trucks taking on a load literally disappeared in the dust cloud. Uncomplicated to install and easy to operate, the DSH Dust Suppression Hopper will reduce hazards and health risks, dust and wastage. The Dust Suppression Hopper is robust and easy to operate and maintain. By reducing product shrinkage, you can sell more of your product.

What Will The Dust Suppression Hopper Do For Me?

REDUCE:

- Dust in the air and surface dust
- The risk of dust explosion or contamination and product wastage
- Occupational health risks to employees
- Maintenance, dust disposal & cleaning costs
- Air pollution permitting operation in closer proximity to urban areas
- Storage costs



IMPROVE:

- Cleanliness and safety in your working environment
- Employee respiratory and health conditions
- Speed and turn-around of transferral or loading
- Air quality and your reputation for good environmental practice
- Product volume due to less wastage
- Profit and cost efficiency
- Overall business efficiency and ease of operation



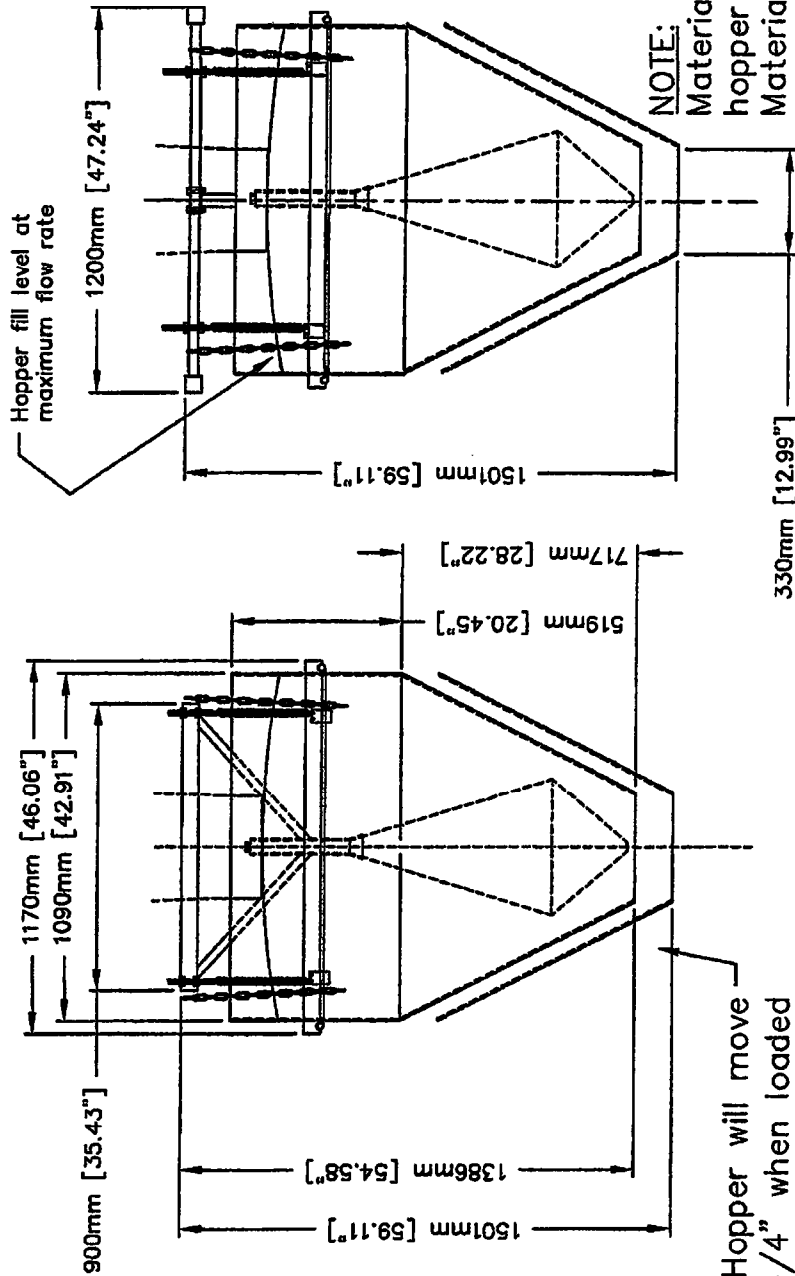
Visit <http://www.dshsystems.co.nz/> for more details.

To get a quote for the DSH System [click here](#).

View the video below to learn more about our award winning [Dust Suppression Hopper](#).

<http://www.siouxsteel.com/index.php/product-detail/dust-suppression-hopper>

9/10/2010



NOTE:

Material must enter the hopper at a low velocity. Materials entering at high velocity may damage hopper.

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TOLERANCES UNLESS NOTED		SIoux STEEL CO.		UN-1000 STEEL F.O. BOX 1000 SIOUX FALLS, SD 57101	
FRONT	DATE	DESCRIPTION	DATE	SCALE	SCALE
				DO NOT SCALE	1:1
				SHEET	1 OF 1
				TITLE	DSH-3R HOPPER TYPICAL INSTALLATION
				DATE	4/08/10
				DESIGNED BY	
				APPROVED BY	
				QUANTITY	1
				DRW NO.	B

Award winners can solve grain's dust problems, says Wypych

by [Australian Bulk Handling Review](#) — last modified Apr 07, 2009 04:07 PM



Associate Professor Peter Wypych of the University of Wollongong

The Olds Elevator and Dust Suppression Hopper - two products which have featured prominently at the Australian Bulk Handling Awards - received plaudits recently from Associate Professor Peter Wypych of the University of Wollongong in his address to the Grain Logistics conference.



[Click to view a video excerpt from Peter Wypych's presentation.](#)

At the event, held on April 1st and 2nd in Sydney, Wypych presented a session on Developments in Safe and Reliable Conveying and Handling.

In terms of dust control, Wypych discussed the Dust Suppression Hopper, invented by DSH Systems, a family-run New Zealand company. He showed a video in which a Dust Suppression Hopper reduced dust by 98%, and said that the University would do more modeling of the technology in future.

The Dust Suppression Hopper consists of a hopper with a central plug and uses either springs or a Programmable Logic Computer (PLC) to control the clearance between the hopper and the plug.

The material column has a minimized surface area and entrains less free air than material discharged directly from the outlet of a conveying system. This feature makes the hopper less prone to releasing dust into the surrounding environment.

In practice, material is conveyed into the top of the hopper and is contained until the weight forces the hopper to move away from the plug, releasing the material through the cavity between the plug and the hopper at the bottom of the device. The head of material maintained in the hopper squeezes air trapped in the material to disperse and this allows the product to flow as a

solid column at a flow rate adjusted by controlling the clearance between the hopper and the plug.

The Dust Suppression Hopper won an award for Innovative Technology at the 2006 Australian Bulk Handling Awards in Melbourne; at the 2007 event, held in Sydney, the company won the award for Dust Control Technology, Application or Practice.

The Olds Elevator, developed by the Olds family of Queensland, is beginning to find favour as an alternative to bucket elevators. The patented technology reverses normal screw conveyor design, with an outer casing rotating around a static inner screw. It reduces dust and the risk of explosions and is gentle on materials being handled.

The device allows users to elevate a broad spectrum of bulk materials at 90 degrees, while simultaneously volumetrically feeding with a high degree of accuracy. It is finding its way into a variety of plants in Australia and is also being manufactured under licence and finding application in the US, Mexico, UK and Singapore.

The Olds Elevator won an award for Innovative Technology at the 2006 Australian Bulk Handling Awards in Melbourne

Elsewhere in his presentation, Wypych described research being conducted by the University of Wollongong with applicability to the grain handling sector. One area of interest is low velocity slugflow pneumatic conveying, in which materials can be carried at one metre per second, compared to speeds of around 20 ms/s in normal pneumatic conveying.

In the field of air entrainment and dust generation, the original theory was published by Hemeon in 1963, with the latest Conveyor Equipment Manufacturers Association (CEMA) publication the bible of conveyor design producing a similar equation.

In 45 years nothing has changed in this area, but were intent on changing that at Wollongong, said Wypych. Using Hemeon or the CEMA guide you'll underestimate dramatically the amount of air entrained, and subsequently the amount of dust. Therefore, you can understand why we see such dust clouds out in the field.

In terms of the computer modeling of particulate flows using DEM simulations, the University of Wollongong has developed its own code but is focusing its energies on validation and calibration work a much neglected field internationally.

Longer term, Wypych suggested that dust suppressants, already used in mining, might be applied in the grain industry.

Contacts:

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Dust Suppression Hopper - www.dshsystems.co.nz

Olds Elevator www.oldselevator.com