SAFETY DATA SHEET
JET BLACK STAIN

1 IDENTIFICATION
PRODUCT NAME: JET BLACK STAIN
CHEMICAL NAME: FIREBRICK STAIN AND COLOR ENHANCER
PRODUCT USE: INDUSTRIAL APPLICATIONS
MANUFACTURER: ALSEY REFRACTORIES COMPANY
266 STATE ROUTE 106 SOUTH
ALSEY, IL 62610
1-314-963-7900
EMERGENCY CONTACT: 1-314-963-7900
MONDAY THRU THURSDAY, 09:00 – 15:00 US CENTRAL TIME [UTC-5]

2 HAZARD IDENTIFICATION
HAZARD CLASSIFICATION:
SKIN CORROSION/IRRITATION – CATEGORY 4
ORAL INGESTION – CATEGORY 4

SIGNAL WORD: DANGER

HAZARD STATEMENTS:
ACUTE TOXICITY-DERMAL
ACUTE TOXICITY-ORAL

PICTOGRAM:

PRECAUTIONARY STATEMENTS:
PREVENTION:
DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.
USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED.
WASH THOROUGHLY AFTER HANDLING.

SUPPLEMENTAL INFORMATION:
99.33% OF THE MIXTURE CONSISTS OF COMPONENTS OF UNKNOWN ACUTE ORAL TOXICITY. 99.53% OF THE MIXTURE CONTAINS COMPONENTS OF UNKNOWN DERMAL TOXICITY.

RESPONSE:
INGESTION: CALL A POISON CENTER IF SWALLOWED
SKIN IRRITATION: WASH WITH SOAP AND WATER.
SEEK MEDICAL ATTENTION IF NECESSARY
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3 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS-NO</th>
<th>WEIGHT %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>10-25</td>
</tr>
<tr>
<td>2-Propanol, 1-Methoxy -Acetate</td>
<td>108-65-6</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Copper Chromite Black Spinel</td>
<td>68186-91-4</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

4 FIRST AID MEASURES

SKIN CONTACT: IF SKIN IRRITATION OCCURS, WASH THOROUGHLY WITH SOAP AND WATER.

ORAL: CALL POISON CENTER

 ROUTES OF ENTRY: MOUTH, SKIN

5 FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, OTHER.

PRECAUTIONS FOR FIREFIGHTERS: WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.

UNUSUAL FIRE & EXPLOSION HAZARDS: CLOSED CONTAINERS CAN BUILD PRESSURE FROM HEAT AND RUPTURE VIOLENTLY. KEEP COOL WITH WATER. PRODUCT WILL NOT BURN BUT MAY SPATTER IF TEMPERATURE EXCEEDS BOILING POINT OF WATER. DO NOT USE WATER JET AS AN EXTINGUISHER, AS THIS WILL SPREAD THE FIRE.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

DURING FIRE, GASES HAZARDOUS TO HEALTH MAY BE FORMED.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING MUST BE WORN IN CASE OF FIRE.

FIRE FIGHTING EQUIPMENT/INSTRUCTIONS

MOVE CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK.

SPECIFIC METHODS USE STANDARD FIREFIGHTING PROCEDURES AND CONSIDER THE HAZARDS OF OTHER INVOLVED MATERIALS. GENERAL FIRE HAZARDS NO UNUSUAL FIRE OR EXPLOSION HAZARDS NOTED

6 ACCIDENTAL RELEASE MEASURES

KEEP UNNECESSARY PERSONNEL AWAY. KEEP PEOPLE AWAY FROM AND UPWIND OF SPILL/LEAK. WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND CLOTHING DURING CLEAN-UP. DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIAL UNLESS WEARING APPROPRIATE PROTECTIVE CLOTHING. ENSURE ADEQUATE VENTILATION. LOCAL AUTHORITIES SHOULD BE ADVISED IF SIGNIFICANT SPILLAGES CANNOT BE CONTAINED. FOR PERSONAL PROTECTION, SEE SECTION 8 OF THE SDS. METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

LARGE SPILLS: STOP THE FLOW OF MATERIAL, IF THIS IS WITHOUT RISK. DIKE THE SPILLED MATERIAL, WHERE THIS IS POSSIBLE. COVER WITH PLASTIC SHEET TO PREVENT SPREAD. ABSORB IN VERMICULITE, DRY SAND OR EARTH AND PLACE INTO CONTAINERS. FOLLOWING PRODUCT RECOVERY, FLUSH AREA WITH WATER.

SMALL SPILLS: WIPE UP WITH ABSORBENT MATERIAL (E.G. CLOTH, FLEECE). CLEAN SURFACE THOROUGHLY TO REMOVE RESIDUAL CONTAMINATION.

NEVER RETURN SPILLS TO ORIGINAL CONTAINERS FOR RE-USE. FOR WASTE DISPOSAL, SEE SECTION 13 OF THE SDS. ENVIRONMENTAL PRECAUTIONS AVOID DISCHARGE INTO DRAINS, WATER COURSES OR ONTO THE GROUND.

7 HANDLING AND STORAGE

HANDLING: ENSURE PROPER VENTILATION. KEEP RESPIRATORY DEVICE AVAILABLE.

STORAGE: STORE IN ORIGINAL CONTAINER; AWAY FROM INCOMPATIBLE MATERIALS.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED EXPOSURE. DO NOT TASTE OR SWALLOW.

WHEN USING, DO NOT EAT, DRINK OR SMOKE. PROVIDE ADEQUATE VENTILATION. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. WASH HANDS THOROUGHLY AFTER HANDLING. WASH CONTAMINATED CLOTHING BEFORE REUSE. OBSERVE GOOD
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INDUSTRIAL HYGIENE PRACTICES. USE CARE IN HANDLING/STORAGE.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>CAS-NO</th>
<th>OSHA PEL (RESPIRABLE DUST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TALC</td>
<td>14807-96-6</td>
<td>0.3 mg/m$^3$ TOTAL DUST; 0.1 mg/m$^3$ RESPIRABLE; 20 mppcf; 24 mppcf RESPIRABLE</td>
</tr>
<tr>
<td>2-PROPANOL, 1-METHOXY-ACETATE</td>
<td>108-65-6</td>
<td>WEEL TWA 50 PPM</td>
</tr>
<tr>
<td>COPPER CHROMITE BLACK SPINEL</td>
<td>68186-91-4</td>
<td>ACGIH TWA 1 mg/m$^3$, 0.2 mg/m$^3$ RESPIRABLE</td>
</tr>
</tbody>
</table>

US - CALIFORNIA OELS: SKIN DESIGNATION

2-PROPANOL, 1-METHOXY-ACETATE (CAS 108-65-6) CAN BE ABSORBED THROUGH THE SKIN.

APPROPRIATE ENGINEERING CONTROLS

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. INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT.

EYE/FACE PROTECTION WEAR SAFETY GLASSES WITH SIDE SHIELDS (OR GOGGLES).

SKIN PROTECTION

HAND PROTECTION WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES. SUITABLE GLOVES CAN BE RECOMMENDED BY THE GLOVE SUPPLIER.

OTHER WEAR APPROPRIATE CHEMICAL RESISTANT CLOTHING. RESPIRATORY PROTECTION IN CASE OF INSUFFICIENT VENTILATION, WEAR SUITABLE RESPIRATORY EQUIPMENT. THERMAL HAZARDS WEAR APPROPRIATE THERMAL PROTECTIVE CLOTHING, WHEN NECESSARY.

GENERAL HYGIENE CONSIDERATIONS

KEEP AWAY FROM FOOD AND DRINK. ALWAYS OBSERVE GOOD PERSONAL HYGIENE MEASURES, SUCH AS WASHING AFTER HANDLING THE MATERIAL AND BEFORE EATING, DRINKING, AND/OR SMOKING. ROUTINELY WASH WORK CLOTHING AND PROTECTIVE EQUIPMENT TO REMOVE CONTAMINANTS.

9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>APPEARANCE:</th>
<th>BLACK LIQUID</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO IGNITION:</td>
<td>PRODUCT IS NOT SELF-IGNITING</td>
</tr>
<tr>
<td>PHYSICAL STATE:</td>
<td>LIQUID</td>
</tr>
<tr>
<td>ODOR:</td>
<td>MODERATE</td>
</tr>
<tr>
<td>PH:</td>
<td>NA</td>
</tr>
<tr>
<td>WATER SOLUBILITY:</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>FLASH POINT:</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>EXPLOSION LIMITS:</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>BOILING POINT:</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>MELTING POINT:</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY:</td>
<td>9.75 LB/GALLON</td>
</tr>
</tbody>
</table>

10 STABILITY AND REACTIVITY

STABILITY: PRODUCT IS STABLE UNDER NORMAL CONDITIONS OF USE, STORAGE, AND TRANSPORTATION.

INCOMPATIBLE PRODUCTS: STRONG OXIDIZING AGENTS

CONDITIONS TO AVOID: CONTACT WITH INCOMPATIBLE MATERIALS.

11 TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE

INHALATION: PROLONGED INHALATION MAY BE HARMFUL. SKIN CONTACT HARMFUL IN CONTACT WITH SKIN. EYE CONTACT DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION. INGESTION HARMFUL IF SWALLOWED.

REVISED 12/07/2016

MANUFACTURER OF QUALITY REFRACTORIES SINCE 1906
SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION.

INFORMATION ON TOXICOLOGICAL EFFECTS ACUTE TOXICITY HARMFUL IN CONTACT WITH SKIN. HARMFUL IF SWALLOWED. SKIN CORROSION/IRRITATION PROLONGED SKIN CONTACT MAY CAUSE TEMPORARY IRRITATION. SERIOUS EYE DAMAGE/EYE IRRITATION

DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION.

RESPIRATORY OR SKIN SENSITIZATION

RESPIRATORY SENSITIZATION NOT A RESPIRATORY SENSITIZER. SKIN SENSITIZATION THIS PRODUCT IS NOT EXPECTED TO CAUSE SKIN SENSITIZATION.

GERM CELL MUTAGENICITY NO DATA AVAILABLE TO INDICATE PRODUCT OR ANY COMPONENTS PRESENT AT GREATER THAN 0.1% ARE MUTAGENIC OR GENOTOXIC. CARCINOGENICITY RISK OF CANCER CANNOT BE EXCLUDED WITH PROLONGED EXPOSURE.

IARC MONOGRAPHS. OVERALL EVALUATION OF CARCINOGENICITY

COPPER CHROMITE BLACK SPINEL (CAS 68186-91-4) 3 NOT CLASSIFIABLE AS TO CARCINOGENICITY TO HUMANS. TALC (CAS 14807-96-6) 2B POSSIBLY CARCINOGENIC TO HUMANS.

3 NOT CLASSIFIABLE AS TO CARCINOGENICITY TO HUMANS. OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050)

NOT LISTED. US. NATIONAL TOXICOLOGY PROGRAM (NTP) REPORT ON CARCINOGENS

NOT AVAILABLE. REPRODUCTIVE TOXICITY THIS PRODUCT IS NOT EXPECTED TO CAUSE REPRODUCTIVE OR DEVELOPMENTAL EFFECTS. SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE

NOT CLASSIFIED.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE

NOT CLASSIFIED.

ASPIRATION HAZARD NOT AN ASPIRATION HAZARD. CHRONIC EFFECTS PROLONGED INHALATION MAY BE HARMFUL. PROLONGED EXPOSURE MAY CAUSE CHRONIC EFFECTS.

12 ECOLOGICAL INFORMATION

ECO TOXICOLOGICAL/CHEMICAL FATE INFORMATION: NOT AVAILABLE.

13 DISPOSAL INFORMATION

DISPOSAL OF PRODUCT: COLLECT AND RECLAIM OR PLACE IN SEALED CONTAINERS, PRODUCT MAY BE DISPOSED OF IN A LICENSED WASTE FACILITY, IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.


14 TRANSPORT INFORMATION

U.S.A. DOT: NOT REGULATED.

CANADIAN TDG: NOT REGULATED.

ADDITIONAL INFORMATION: NOT DANGEROUS ACCORDING TO AVAILABLE INFORMATION.

15 REGULATORY INFORMATION

THIS PRODUCT IS A "HAZARDOUS CHEMICAL" AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. ONE OR MORE COMPONENTS ARE NOT LISTED ON TSCA. TSCA SECTION 12(B) EXPORT NOTIFICATION (40 CFR 707, SUBPT. D) NOT REGULATED.

CERCLA HAZARDOUS SUBSTANCE LIST (40 CFR 302.4) NOT LISTED. SARA 304 EMERGENCY RELEASE NOTIFICATION NOT REGULATED. OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050) NOT LISTED. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) HAZARD CATEGORIES IMMEDIATE HAZARD - YES DELAYED HAZARD - NO FIRE HAZARD - NO PRESSURE HAZARD - NO REACTIVITY HAZARD - NO SARA 302 EXTREMELY HAZARDOUS SUBSTANCE NOT LISTED. SARA 311/312 HAZARDOUS CHEMICAL NO

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SARA 313 (TRI REPORTING)
NOT REGULATED.

OTHER FEDERAL REGULATIONS
CLEAN AIR ACT (CAA) SECTION 112 HAZARDOUS AIR POLLUTANTS (HAPS) LIST
COPPER CHROMITE BLACK SPINEL (CAS 68186-91-4) CLEAN AIR ACT (CAA) SECTION 112(R) ACCIDENTAL RELEASE PREVENTION (40 CFR 68.130)
NOT REGULATED. SAFE DRINKING WATER ACT (SDWA)
NOT REGULATED.

US STATE REGULATIONS
US - CALIFORNIA CANDIDATE CHEMICALS: LISTED
COPPER CHROMITE BLACK SPINEL (CAS 68186-91-4) TALC (CAS 14807-96-6) US. CALIFORNIA CONTROLLED SUBSTANCES. CA DEPARTMENT OF JUSTICE (CALIFORNIA HEALTH AND SAFETY CODE SECTION 11100)
NOT LISTED. US. MASSACHUSETTS RTK - SUBSTANCE LIST
TALC (CAS 14807-96-6) US. NEW JERSEY WORKER AND COMMUNITY RIGHT-TO-KNOW ACT
TALC (CAS 14807-96-6) US. PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW LAW COPPER CHROMITE BLACK SPINEL (CAS 68186-91-4) TALC (CAS 14807-96-6) US. RHODE ISLAND RTK NOT REGULATED. US. CALIFORNIA PROPOSITION 65
WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

US - CALIFORNIA PROPOSITION 65 - CRT: LISTED DATE/CARCINOGENIC SUBSTANCE
CRYSTALLINE QUARTZ SILICA (CAS 14808-60-7) LISTED: OCTOBER 1, 1988 ETHYL BENZENE (CAS 100-41-4) LISTED: JUNE 11, 2004

INTERNATIONAL INVENTORIES
COUNTRY(S) OR REGION INVENTORY NAME ON INVENTORY (YES/NO)* AUSTRALIA AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) NO CANADA DOMESTIC SUBSTANCES LIST (DSL) NO CANADA NON-DOMESTIC SUBSTANCES LIST (NDSL) NO CHINA INVENTORY OF EXISTING CHEMICAL SUBSTANCES IN CHINA (IECSC) NO EUROPE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL NO SUBSTANCES (EINECS) EUROPE EUROPEAN LIST OF NOTIFIED CHEMICAL SUBSTANCES (ELINCS) NO JAPAN INVENTORY OF EXISTING AND NEW CHEMICAL SUBSTANCES (ENCS) NO.
COUNTRY(S) OR REGION INVENTORY NAME ON INVENTORY (YES/NO)* KOREA EXISTING CHEMICALS LIST (ECL) NO NEW ZEALAND NEW ZEALAND INVENTORY NO PHILIPPINES PHILIPPINE INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES NO UNITED STATES & PUERTO RICO TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY NO *A "YES" INDICATES THAT ALL COMPONENTS OF THIS PRODUCT COMPLY WITH THE INVENTORY REQUIREMENTS ADMINISTERED BY THE GOVERNING COUNTRY(S) A "NO" INDICATES THAT ONE OR MORE COMPONENTS OF THE PRODUCT ARE NOT LISTED OR EXEMPT FROM LISTING ON THE INVENTORY ADMINISTERED BY THE GOVERNING COUNTRY(S).

16 OTHER INFORMATION
HMIS® RATINGS HEALTH: 2*
NFPA RATINGS: FLAMMABILITY: 0 PHYSICAL HAZARD: 0 HEALTH: 2 INSTABILITY: 0

NOTE: THIS SAFETY DATA SHEET CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION AND IS NOT TO BE DISCLOSED TO THE GENERAL PUBLIC OR TO COMPETITION EXCEPT AS REQUIRED BY LAW. THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE, WHETHER ORIGINATING WITH ASEY REFRACTORIES COMPANY OR NOT. THIS INFORMATION IS OFFERED SOLELY FOR USE IN YOUR EVALUATION OF THIS PRODUCT IN RESPECT TO SAFETY, HEALTH, AND ENVIRONMENTAL HAZARDS.

SDS STATUS: REPLACES ALL PRIOR SDS
SDS END