18th April 2013

Dear Sirs,

Colin Phillips - colin.phillips@planning.nsw.gov.au
Information Dept. - information@planning.nsw.gov.au
FAX:……

Re: "Claiming Submitters Rights" for "Proposed Karuah East Hard Rock Quarry" Major Project Application Number: MP 09_0175

I/we David Peckham ….. am/are "Claiming Submitters Rights" for the above and OBJECT to this proposed extension of the Karuah Quarry.

I/we will send through my/our submission as soon as possible. Please attach any further information sent to form my/our complete submission.

Yours faithfully

David Peckham…….. Name

……. Signature

Lot 7 Halloran Rd North Arm Cove 2324 NSW Address

…….

18/04/2013…… Date

29th April 2013

To the Director General
NSW Department of Planning & Infrastructure
Major Development Assessment
GPO BOX 39
SYDNEY NSW 2001

Email: Paul.Freeman@planning.nsw.gov.au Fax: (02) 9228-6466 Phone: (02) 9228-6587
information@planning.nsw.gov.au Fax: (02) 9228-6555 Phone: (02) 9228-6333

Dear Sirs/Madams,

RE: OBJECTION to Proposed Karuah East Hard Rock Quarry - MP 09_0175

I David Peckham hereby OBJECT to the above gravel mine extension project and request the NSW Planning & Infrastructure Department and Minister Tony Bourke reject the entire proposal.

I object to the Proposed Karuah East Hard Rock Quarry proposal to operate outside their area of operation currently located on Lot 11 off The Branch Lane at Karuah.

I am concerned Karuah East Quarries crushing and material storage area will be too close to the residents of Hunterview Rd and Halloran Rd, North Arm Cove where some houses will be within 1.2 klms from the proposed crushing plant.

As people's homes on Tarean Rd are already subject to vibrating and shaking with blasts as well as have dust inside and outside their homes and in their tank water (drinking water), this will only be increased by the approval of Karuah East Quarry with the probability of two quarries operating simultaneously with a capacity in excess of 2 million tonnes pa as compared to 500,000 tonnes pa currently being extracted by Hunter Quarries.

I therefore request the Department reject this proposal.

Alternative Quarry Plans and Methods

I request the Government to protect the threatened species of flora and fauna located on lots 12, 13 and 14 to the best of their ability.

I refer to the Environmental Assessment Report, section 2.13 Alternatives to Proposed Development.
2.13.1 Alternative Quarry Plans & Methods.
Paragraph 2 states;
Significant effort has been undertaken by Karuah East Quarry Pty Ltd to secure access over Lot 11 however this has not been able to be achieved. As a consequence, Karuah East Quarry Pty Ltd has no other option than to pursue a new stand alone quarry operation on Lots 12 and 13.

I would reject that significant effort has been made by either party i.e. the owner of Lot 11 and Karuah East Quarry to secure access over Lot 11 to Lot 12 to expand the current quarry operation if required.

As such I request the Government to ask both parties to provide transcripts of meetings held regarding this matter. It should be noted that the directors of Hunter Quarries and Karuah East Quarry are the same individuals.
If these transcripts do not show that significant effort have been made by both parties I request the Government insist on the following options being instigated before a DA approval for the Karuah East Quarry is considered.

1. The owner of Lot 11 where the current quarry is located and the Directors of Karuah East Quarry enter negotiations for access from Lot 11 to Lot 12.
2. The Government appoint an independent arbitrator to negotiate a favourable outcome for all parties concerned.
3. The access granted to Lot 12 from Lot 11 should only occur once the existing Andesite stocks have been exhausted on Lot 11 as per Department Of Planning DA approval 265-10-2004 stages 1 and 2.
4. The land located at Lots 13 and 14 be set aside as environmental offsets and placed IN PERPETUITY for the protection of threatened species.

Air Quality 6.6.1 (refer Environmental Impact Statement)

5. I formally request the NSW Planning and Infrastructure Department investigate that dust monitoring was carried out for this Environmental Impact Statement in 2008 as indicated in table 35. If this is correct the foot print of the existing Hunter Quarry would have been considerably less in 2008 than it currently is in 2013.(This can be validated with photographs if required)

6. Given dust readings on high wind days would be greatly increased due to the amount of exposed ground surfaces as well as additional haul roads currently in operation, 2008 readings would be obsolete. Since 2008 Hunter Quarries were found to be extracting more than the 500,000 tonne allowed under the current DA approval. This resulted in prosecution and fines. These additional extraction loads would also contribute to the current dust impact on local residents.
7. The size of the current stock piles of material is excessive in height. This would make it almost impossible for water sprays to be used effectively to suppress dust on high wind days, of which the area is reknown for. I also question if Hunter Quarries currently has spraying systems installed for these stock piles. (Please see attached Material Safety Data Sheet pdf file)

Visual Impact 6.8 (refer Environmental Impact Statement)

8. I reject the conclusion of the Environmental Impact Statement of a low visual impact that is acceptable from a visual perspective.

As per illustrated figure 40 six residents will be affected and only 2 residences - 30 & 32 - will be able to see the extraction area.
This would therefore imply that all other residents (not mentioned in this survey) will have no visibility of the quarry from any and all aspects of their farms. This is grossly untrue
Most of the properties on the Eastern side are rural blocks located on undulating 100 acre lots. The quarry will be visible for the majority of land owners.
It would also indicate anyone travelling along Halloran Rd in a Westerly direction would not see the benching. This is simply not true
With most residents roaming over their entire properties on a regular basis to check on livestock and fencing or simply enjoying the beauty of the local scenery and wildlife, the approval of the Karuah East Quarry will be a permanent scar on the landscape as is the existing quarry already in operation.

9. I reject the finding that the quarry benching will not be visible from the Pacific Highway as the mountain being mined is less than 800 meters away and considerably more elevated than the roadway.

Damage to the local environment

1. A total of Four Threatened fauna species and three Threatened flora species were recorded within the study area according to the report by RPS produced for the proponent (Appendix I, page 36). There were 52 fauna species recorded at the site by RPS - 34 birds, 9 mammals, 3 reptiles and 5 frogs and toads. Of these there were two vulnerable bird species - the Powerful Own and the Varied Sittella; Two vulnerable bat species - The Eastern Freetail-bat and the Eastern Falsistrella; One vulnerable snake species- Stephens' Banded Snake. There were three vulnerable flora species recorded - Tetratheca juncea; Grevillea parviflora (subs parviflora) and Asperula asthenes.

2. The development will significantly impact the Threatened floral species Tetratheca juncea (Black-eyed Susan) and Grevillea parviflora subs. parviflora (the northern-most recorded instance of this species) and Asperula asthenes (Trailing Woodruff). The report by RPS produced for the proponent (Appendix I, page 1) states:
A total of three (3) Threatened flora species listed under the NSW Threatened
Species Conservation Act 1995 (TSC Act) and Commonwealth Environmental Protection and Biodiversity Assessment Act 1999 (EPBC Act) were recorded within the study area during the flora surveys, these being:

i) Tetratheca juncea (Black-eyed Susan) - 6567 plant clumps were recorded in the study area (of which 2742 clumps occur within the proposed quarry development footprint);
ii) Grevillea parviflora subsp. parviflora (Small-flower Grevillea) - 100 suckering stems were recorded from 9 patches (32 stems were recorded in the proposed quarry development footprint); and
iii) Asperula asthenes (Trailing Woodruff) - 2 patches recorded along Yalimbah Creek outside the proposed quarry development footprint within the existing conservation offset lands on Lot 12.

An assessment of impacts using the framework prescribed under Section 5A of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) (commonly referred to as `7 Part Test of Significance') was carried out for these 3 Threatened flora species and concluded that the Proposal had the potential to have a significant impact on two of these species, these being Tetratheca juncea and Grevillea parviflora subsp.parviflora.

3. Tetratheca juncea is listed as a vulnerable species under both the TSC Act and EPBC Act. At 4.6 of the RPS report, the ecologists state that "the proposal will result in the direct removal of 2742 clumps of the Threatened sub-shrub Tetratheca juncea" and that a further 839 clumps close to the site would be adversely impacted (see also Figure 6 of the RPS report).

Information at this link indicates that the concentration of this species at the development site is of major significance:

http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=21407
(part of this report is at Attachment 1 to this submission)

The section 5A assessments at Appendix 6 of the RPS report states that the proposal will result in the loss of 41% of the total population identified at the study area and a further 13% that will be vulnerable to edge effects, i.e., "54% of the total site population will be impacted". The author goes on to say "DSEWPAC (2011) states that the species will likely have a very high risk of significant impact if a proposed action will directly or indirectly affect an `important population' of Black-eyed Susan resulting in a loss of greater than 25% or 1000 clumps (whichever is the lesser)". The affected population meets this definition. The Section 5A report also states that "habitat fragmentation has potentially adverse consequences for pollen and seed distribution of T. juncea", will likely lead to the loss of genetic variation, increased divergence and reduced abundance and effectiveness of pollinators. The author points to such fragmentation arising from the proposed development affecting other populations of the species. The author concluded that "the proposed activity on the subject site has the potential to have a significant effect on T. juncea.

4. The RPS report identified 100 suckering stems of the species grevillea parviflora subs parviflora at the study site (see Attachment 2 to this submission from the RPS report). The report states that the species on the subject site represents an "important population" under the SEWPAC Significant Impact Guidelines as it would represent the northern limit of the species range. Of the 100 plants, 32 would be directly destroyed by the proposal and the remainder will be impacted by edge effects from related quarry activity and the reduction of known habitat. The Section 5A assessment (Appendix 6) that the proposal "may have a significant impact on the life cycle" of the species such that "a viable local population of the species is likely to be placed at risk of extinction". See information on the current population of this species at:

http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64910

and at:

http://www.environment.nsw.gov.au/resources/nature/TSprofileGrevilleaParvifloraSspParviflora.pdf

5. In addition to this, four threatened fauna species listed under the TSC Act were recorded within the study area during the project field surveys, namely the Powerful Owl, Varied Sittella, the Eastern Freetail Bat and the Eastern False Pipistrelle. The ecologists added "potential habitat exists on the subject site for a further 14 Threatened fauna species previously recorded in the locality" (RPS Assessment Report, page 1). The RPS report also states (page 39 - 3.3.6.3) that "the subject site provides extensive foraging and roosting habitat for a suite of threatened microchiropteran bat species" and "abundant blossom resources" for Grey-headed Flying-foxes as well as "extensive breeding, sheltering and foraging opportunities for a diversity of reptile species" (3.3.6.5). The site also provides potential habitat for Stephen's Banded Snake which has been previously recorded on adjacent Lot 12 offset lands (which will be devalued by being cut off by the development proposal).

6. The presence of these species indicates the high conservation values of the area designated by the proponent for the quarry and crusher site. Supporting this view is the finding by RPS that a total of 52 fauna species were recorded within the subject site (RPS report, page 36). The ecologists also note at 3.3.6.6 that:

The subject site is represented by an undulating topography, encompassing ridges, which are colonised by dry forest communities, with intervening gullies that provide moist and sheltered conditions for wet sclerophyll plant communities. This diversity of forest habitat provides an extensive mosaic of habitat for a wide range of common forest avifauna. The subject site has an abundance of Allocasuarina tree species,which are the favoured food source of Calyptorhynchus lathami (Glossy Black-Cockatoo).

7. The subject site is part of a bushland remnant comprising almost 300 hectares, the connectivity of which has already been affected by the intrusion of the existing quarry but which will be much more seriously fragmented by extension of the quarry into the centre of this fragment under the proposed plan. The RPS report points to the adverse effects of further fragmentation (RPS 3.3.6.7 and 4.3 and Figure 9) and that "the removal of 30.68 hectares of forested habitat on the subject site as part of the proposal will further fragment the 300 hectare remnant and may isolate the south-west portion of it (bushland on Lot 11, existing offset areas of Lot 12) for less mobile arboreal, terrestrial mammals, Koala, reptiles and amphibians" and that "the size of this isolated fragment may be too small to support resident fauna species, particularly territorial mammals". The author adds that "this potentially isolated remnant and proximate remnants will be tenuous at best given the absence of connective forest cover" with a consequent effect on the glider population. To that we would add that the narrowing of the corridor to the east of the proposal on the remainder of Lot 13 and Lot 14 would significantly reduce that area's value as part of the larger remainder of the remnant bushland and the ability of gliders to traverse the nearby Pacific Highway. We note that the most suitable glide path for such animals from the south of the Highway is directly opposite the proposed site and the remnant that would become isolated (see topological diagram Appendix K, sub-appendix A to the proponent's EIS, reproduced at Attachment 8 to our submission).

8. The proposal will generate effects that "will increase the edge/area ratio within the retained bushland habitats on Lots 12 and 13 and will render these areas more vulnerable to weed invasion including Lantana camara, rubbish dumping, predation from exotic fauna (dogs) and changes in light/wind regimes" which may ultimately adversely affect native species including the Threatened species identified. (See RPS report 4.5 and Figure 9). The entry of quarry machinery into the site is likely to result in the infection of native plants introduction of the water mould, Phytopthora cinnamomi, which attacks the roots of plants and can reach epidemic proportions "causing death of large numbers of plants". P. cinnamomi can also be transmitted via water courses and stormwater runoff to other

adjacent areas. (See RPS report 4.10.3).

9. The consultant concluded that because of the adverse effects on the State and Federally listed Threatened flora species T. juncea and G. parviflora subs. parviflora, the proposal should be referred to the Commonwealth department of Sustainability, Environment, water, Population and Communities (SEWPAC).

A. Proposed Offset

1. The proponent's submission claims that the offset proposed achieves a ratio of 3.7:1 (see Eco Logical Australia report in Appendix I). While this

may be true of the total area of land offset it has not been established that the Threatened species Tetratheca juncea and Grevillea parviflora exist in one of the offset areas (Tahlee).

2. It has also not been established that the habitat for these species (Smooth barked Apple-Red Bloodwood-Stringybark Dry Sclerophyll Forest) exist in a sufficient area of the offset sites to compensate even in a 1:1 ratio. The area of this type of forest to be lost from the development is 9.74 ha (Eco Logical report, Table 1). The area containing this type of forest at Tahlee is "about" 5.6 ha (Eco Logical, Table 2). It should be noted that the 9.7 ha lost figure does not include losses due to edge effects in the proposed offset at Lots 13 and 14. The distribution of T. juncea in figure 9 of the RPS report indicates a small area of this habitat (possibly no greater than one half of the area to be lost) in Lots 13 and 14, i.e., about 5 ha. With edge effects accounting for about another 30% of the area directly affected (based on 800 clumps lost out of nearly 2700), the total area lost to T. juncea would be approximately 13 ha. The offset at lots 13 and 14 (as calculated above, roughly 5 ha based on the estimated distribution of T. juncea in non-edge affected areas - RPS, Figure 6) and at Tahlee (5.7 ha upon which the existence of T. juncea is yet to be established) gives a total of no more than 12 ha. It appears that the offset of this type of habitat is no more than 1:1 without the establishment of the existence of either T. juncea or G. parviflora at half of the offset.

3. The proponent investigated the purchase of Biobank credits for T. juncea but the Biobank Credit register did not contain any such credits for sale (Eco Logical report 3.1), an indication of the low occurrence of this species.

4. There appears to be no investigation of the management of the existing offset on land owned by the proponent (the southern portion of Lot 12). The competence of the existing operator, Hunter Quarries Pty Ltd and the related entity Karuah East Quarry Pty Ltd has not been established and may be questionable (See evidence of breaches to current consent at Attachment 4 to this submission). This is particularly important given the proximity of the offset to the existing quarry and the likelihood of edge effects including quarry related activity. They should present baseline data on the state of the offset at the time of the consent for the existing quarry on Lot 11 and this should be compared with the current state of this offset. It is noted that this offset is likely to be severely affected by becoming isolated as part of the new development.

The offset proposal does not investigate or take into account the high probability that the isolated fragment of land (including the Lot 12 offset) referred to in the RPS report, (RPS 3.3.6.7 and 4.3 and Figure 9) will lose biodiversity and its value as habitat for affected fauna and flora. Any offset should also account for the likely adverse effects of this isolation.

Yours faithfully

(Signature).....

(Name) David Peckham

Address Lot & Halloran Rd North Arm Cove NSW 2324

Date: 29/04/2013

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Brand Roofing Granules - ZT9300 (Pittsboro, NC)
MANUFACTURER: 3M
DIVISION: Industrial Mineral Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 01/11/13
Supercedes Date: 03/28/12

Document Group: 20-2357-0

Product Use:
Intended Use: Granules for coating roofing shingles.

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
Andesite (composition varies naturally, typically contains feldspars, amphibole, pyroxene, chlorite and epidote)	Mixture	85 - 95
Quartz (a component of Andesite)	14808-60-7	5 - 15
Ceramic	66402-68-4	1.5 - 5.5
Titanium Dioxide	13463-67-7	0.05 - 1.25
Inorganic Pigments	Mixture	0.1 - 1
Oil	64741-96-4	< 0.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Granules
Odor, Color, Grade: White color, slightly oily odor, typical particle size 0.84-2.0 mm
General Physical Form: Solid
Immediate health, physical, and environmental hazards: Granules are not respirable. Dust generated during handling may contain respirable material. Contains a chemical or chemicals which can cause cancer.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:
Silicosis: Signs/symptoms may include breathlessness, weakness, chest pain, persistent cough, increased amounts of sputum, and heart disease.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
Quartz (a component of Andesite)	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Known human carcinogen	National Toxicology Program Carcinogens
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*Not Applicable*
Flash Point	*Not Applicable*
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*

5.2 EXTINGUISHING MEDIA
Non-combustible. Choose material suitable for surrounding fire. Material will not burn.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

6.2. Environmental precautions
Reclaim undamaged product. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods
Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue with detergent and water.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. For industrial or professional use only. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. 3M does not recommend material handling methods that could damage the coating or base mineral. In particular, roofing granules should not be conveyed pneumatically, via screw conveyors, or used as a sand blasting media. These uses can cause coating and base mineral attrition which may lead to increased levels of dust generation.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Provide local exhaust ventilation at transfer points. Use in an enclosed process area is recommended.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Avoid eye contact. The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection
Avoid prolonged or repeated skin contact. Gloves not normally required.

8.2.3 Respiratory Protection
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure: Half mask R95 particulate respirator. Half mask or full facepiece air-purifying respirator with N100 particulate filters. Half facepiece or full facepiece air-purifying respirator suitable for particulates. For questions about suitability for a specific application, consult with your respirator manufacturer.

8.2.4 Prevention of Swallowing
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
Quartz (a component of Andesite)	ACGIH	TWA, respirable fraction	0.025 mg/m3	
Quartz (a component of Andesite)	OSHA	TWA concentration, respirable	0.1 mg/m3	
Quartz (a component of Andesite)	OSHA	TWA concentration, as total dust	0.3 mg/m3	
Titanium Dioxide	ACGIH	TWA	10 mg/m3	
Titanium Dioxide	CMRG	TWA, as respirable dust	5 mg/m3	
Titanium Dioxide	OSHA	TWA, as total dust	15 mg/m3	

SOURCE OF EXPOSURE LIMIT DATA:
ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Granules
Odor, Color, Grade:	White color, slightly oily odor, typical particle size 0.84-2.0 mm
General Physical Form:	Solid
Autoignition temperature	*Not Applicable*
Flash Point	*Not Applicable*
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Boiling Point	*Not Applicable*
Specific Gravity	2.75 - 2.90 [*Ref Std:* WATER=1]
Melting point	*Not Applicable*
Solubility In Water	*Not Applicable*
Percent volatile	Nil

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid
None known

10.2 Materials to avoid
None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition: NONE

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

ID Number(s):
98-0213-4016-5

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS
Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

Ingredient	C.A.S. No.	Classification
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	**Carcinogen
Titanium Dioxide	13463-67-7	**Carcinogen

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

ADDITIONAL INFORMATION

Not California Code of Regulations (CCR) Title 22 hazardous waste.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1 **Flammability:** 0 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:
Section 13: Waste disposal method information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 8: Respiratory protection - recommended respirators was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 15: California proposition 65 ingredient information was modified.
Section 6: Personal precautions information was modified.
Section 6: Environmental procedures information was modified.
Section 6: Methods for cleaning up information was modified.
Copyright was modified.
Section 8: Respiratory protection - recommended respirators punctuation was deleted.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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